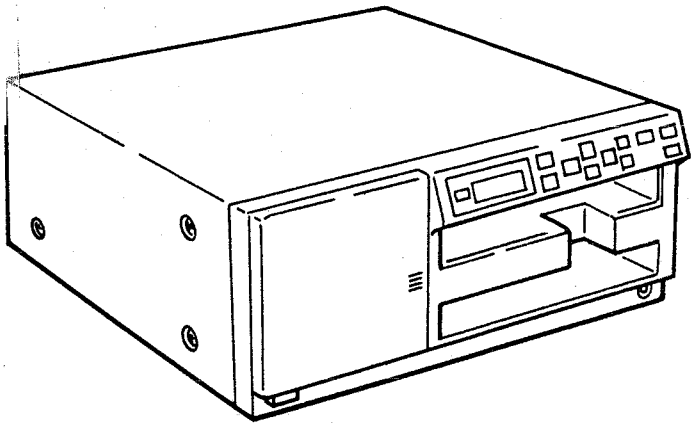
UP-5200MD/5250MD

SERVICE MANUAL

US Model
Canadian Model



SPECIFICATIONS

Printing system Sublimation heat transfer printing

Number of picture elements
720 × 468 PELS (for normal size)

Total gradation 256 levels each for yellow, magenta, and cyan

Printing time
Approximately 60 seconds (for color printing in normal size)
Approximately 24 seconds (for monochrome printing)

TV system Conforming to EIA standards

Video signal

Input connectors

RGB SYNC (RGB video signal) *
BNC connector, 0.7 Vp-p, 75 ohms (when the 75 ohms termination switch is set to ON)

R-Y Y B-Y (Component signal) *
BNC connector
Y: 1 Vp-p, 75 ohms (when the 75 ohm termination switch is set to ON)
R-Y B-Y: 0.7 Vp-p, 75 ohms (when 75 ohm termination switch is set to ON, offset 7.5% and 75% color bar)

S-VIDEO (Separate luminance (Y) and chrominance (C) signals
Y: 1 Vp-p
C: 0.29 Vp-p
75 ohms (when the 75 ohm termination switch is set to ON)

VIDEO (NTSC composite video signal)
BNC connector, 1 Vp-p, 75 ohms (when the 75 ohm termination switch is set to ON), sync negative

AC IN (for power input)

REMOTE 1 (front panel, for the supplied remote control unit only), special mini jack

REMOTE 2 (automatic printing connector)
Stereo mini jack

RS-232C (Computer control interface)
D-SUB 25-pin connector

* Either the RGB video signal or component signal is selected by the RGB/R-Y/Y/B-Y selector on the rear panel.

Output connectors

RGB SYNC (analog RGB singnal)
BNC connector
RGB: 0.7 Vp-p, 75 ohms terminated
SYNC: 1 Vp-p

S-VIDEO
Y: 1 Vp-p, 75 ohms terminated
C: 1 Vp-p, 75 ohms terminated

VIDEO (NTSC composite video signal)
BNC connector, 1 Vp-p, 75 ohms (when the 75 ohm termination switch is set to ON), sync negative

Ink ribbon and printing sheet sets
Color printing pack: UPC-5010A (100 sheets)
B & W printing pack: UPC-5020A (100 sheets)
OHP printing pack: UPC-5030 (50 sheets)

Power requirements
100 to 120 V AC, 50/60Hz
Input current 3.5 A (printer) plus 2.5A (receptacle)

Power consumption
200W (printing gray pattern in normal size under 25°C)

Operating temperature
5°C to 35°C (40°F to 95°F)

Dimensions About 424 × 190 × 472 mm (w/h/d) (16 3/4 × 7 1/2 × 18 3/4 inches)

Weight About 15.6 kg (34 lb 7 oz)

Supplied accessories
UPC-5010A color printing pack (1)
Paper tray (1)
Print tray (1)
AC power cord (1)
Remote control unit (1)
Dry battery SUM-3 (NU) (2)
Connecting cable for the remote control unit (1)
Warranty card (1)
Instruction manual (1)
Quick reference card (1)

— Continued on page 2 —

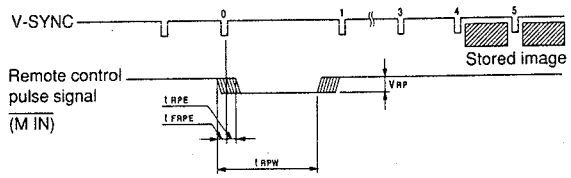
COLOR VIDEO PRINTER

SONY®

Using the automatic printing capabilities (REMOTE 2)
If you send the remote control pulse signals illustrated below through the REMOTE 2 connector, you can both store and print video images automatically.

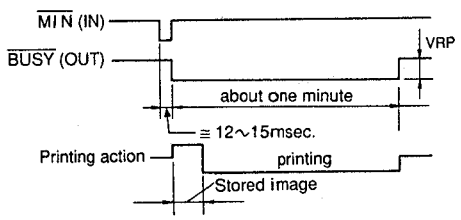
To begin, turn on the power and select the input signal.
Set the monitor display to the input signal because the printer's timing mechanism doesn't work properly when the monitor displays the memory. Press SOURCE/MEMORY to change the display from memory to input.
Send a remote control pulse signal.
If you are printing more than one image, be sure to return the monitor display to the input signal after every image is stored.

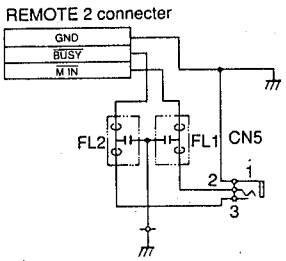
Regulations of remote control pulse ($\overline{\text{M IN}}$)



Nortation	Parameter	MIN	TYP	MAX	Unit	Remarks
t_{RPE}	Time within which a remote control pulse should be cleared to zero.	0	–	5	msec	
t_{FRPE}	Time within which a remote control pulse should be cleared to zero.	0	–	5	msec	
t_{RPW}	Length of a remote control pulse.	15	–	–	msec	
V_{RP}	Amplitude of a remote control pulse.	–	–	5	V	This value is based on TTL standards.

The relation between $\overline{\text{MI N}}$ and $\overline{\text{BUSY}}$.





Design and specifications are subject to change without notice.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

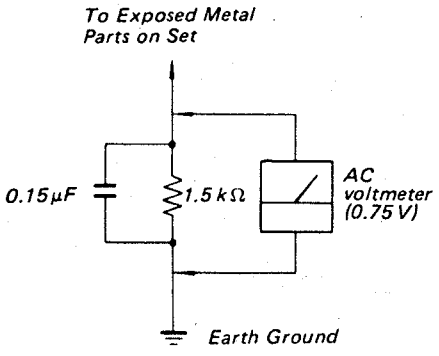


Fig. A. Using an AC voltmeter to check AC leakage.

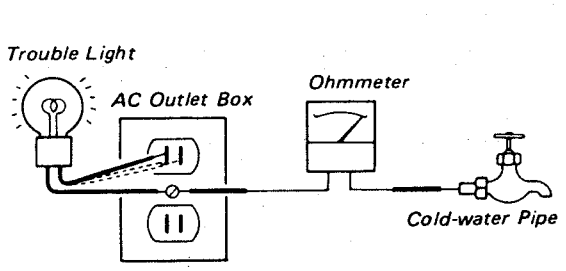


Fig. B. Checking for earth ground.

CONTENTS

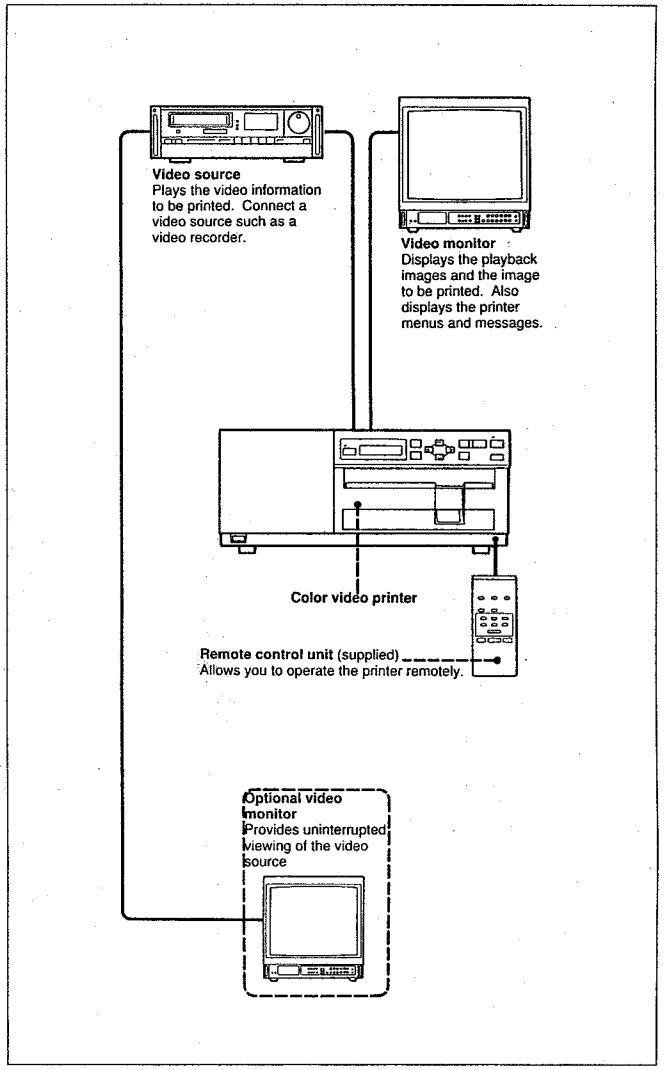
SECTION 1
GENERAL

This section is extracted from instruction manual

1-1. SYSTEM OVERVIEW

System configuration

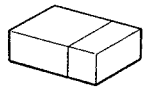
Connect a video machine capable of sending a video image to the printer. Connect a video monitor to the printer to view an image before printing it. If you connect another monitor to the video source, you can also view the moving video image being output by the source.



Ink ribbon cassette and paper

The video printer uses ink ribbon cassettes and special paper. The cassette and sheets are sold as sets; a set for color printing on paper, for monochrome printing on paper, and for color printing on OHP transparencies. Use the appropriate cassette/paper set:

Color printing pack UPC-5010A (One pack is supplied)
One pack includes an ink ribbon cassette and 100 sheets of $5^{3}/_{4}$ x $8^{3}/_{8}$ paper.



Monochrome printing pack UPC-5020A (not supplied)
One pack includes a B & W ink ribbon cassette and 100 sheets of $5^{3}/_{4}$ x $8^{3}/_{8}$ paper.

OHP printing pack UPC-5030 (not supplied)
One pack includes an OHP ink ribbon cassette and 50 sheets of $5^{3}/_{4}$ x $8^{3}/_{8}$ OHP transparencies.

Video signals that can be processed by the color video printer

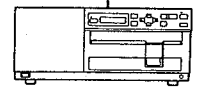
You can connect the following signal sources to the printer.
The signals outlined below can be processed by the color video printer. The way they are actually connected is described on page 18 .

Composite video signals
from VTRs, video cameras, Mavicas, videodisc players and still image transceivers
VIDEO

Separate luminance (Y) and chrominance (C) signals
from VTRs, Mavicas, and other video equipment having a terminal for separate (S) video signals.
S-VIDEO

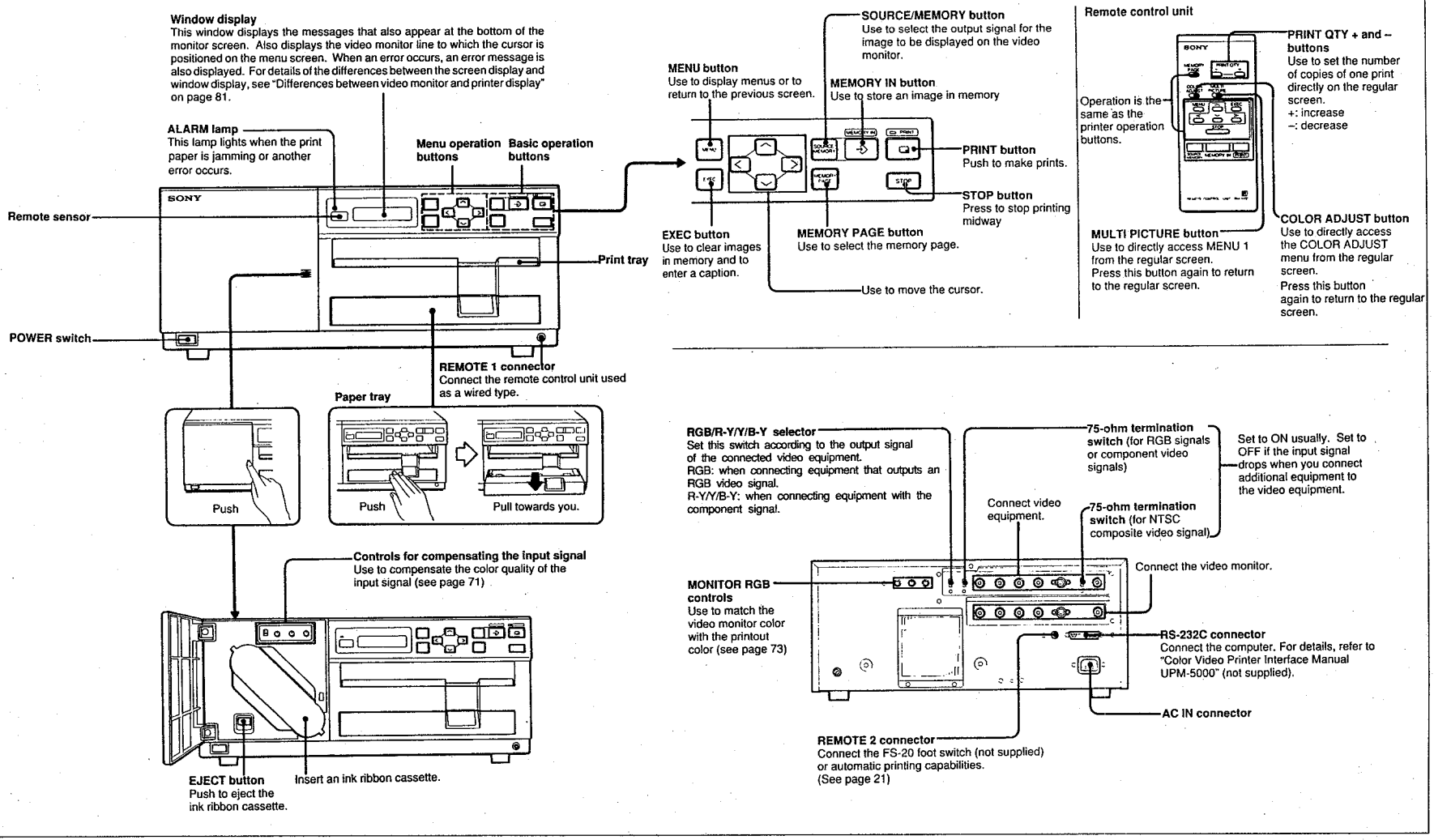
RGB video signals (analog) 1)
from personal computers, Mavicas, and still image transceivers
RGB

Component signals 1)
from Betacam VTRs, Mavicas, and still image transceivers
R-Y/Y/B-Y



1) Switch between RGB video signals or component signals with the RGB/R-Y/Y/B-Y selector on the rear panel.

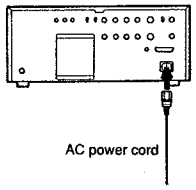
1-2. LOCATION AND FUNCTION OF PARTS AND CONTROLS



1-3. CONNECTIONS

Make the necessary connections as follows.

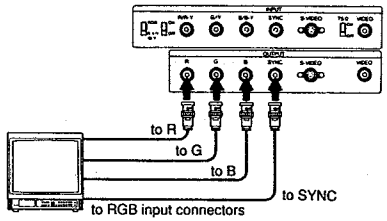
1 Connect the AC power cord.



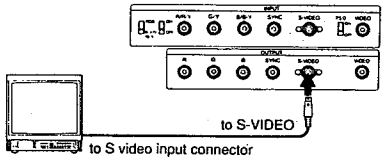
Note
For safety, connect the AC power cord to the AC outlet after you have made all connections.

2 Connect the video monitor.

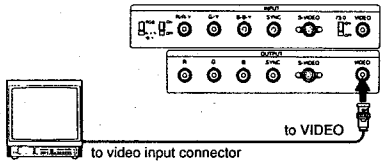
Connecting a monitor with RGB inputs



Connecting a video monitor with separate Y/C video input



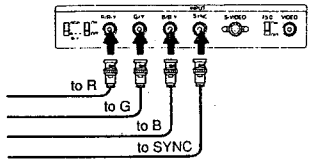
Connecting a video monitor with only NTSC composite video input



Note
When you connect the printer to the NTSC composite video input, it may be difficult to match the color shown on the monitor with that of the printouts.

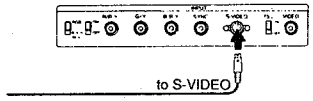
3 Connect video equipment.

Connecting equipment that outputs an RGB video signal [1]

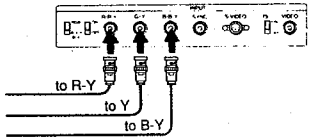


You do not need to make a connection to the SYNC connector when a sync signal is added to the G signal.

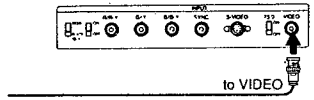
Connecting equipment that outputs a separate Y/C signal



Connecting equipment that outputs a component signal [2]



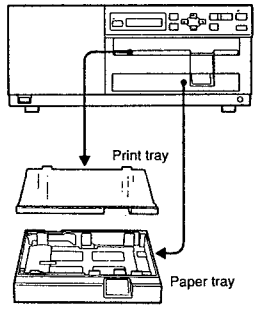
Connecting the equipment with an NTSC composite video signal



1) When you connect equipment that outputs an RGB video signal, set the RGB/R-Y/Y/B-Y selector to RGB.
2) When you connect equipment that outputs a component signal, set the RGB/R-Y/Y/B-Y selector to R-Y/Y/B-Y.

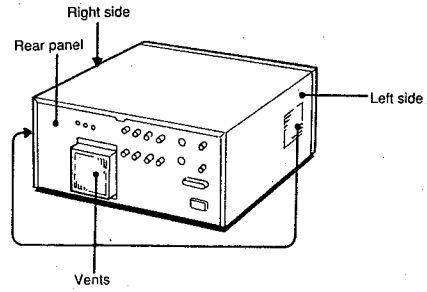
Assembly

Insert the supplied paper tray and print tray.



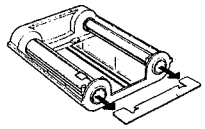
Location

Leave enough room around the printer for air to circulate through the vents on the left and right sides and out of the fan on the back panel.



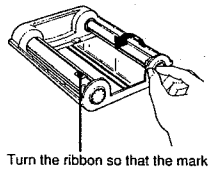
1-4. LOADING AN INK RIBBON CASSETTE

1 **Remove the stopper from the ink ribbon cassette.**



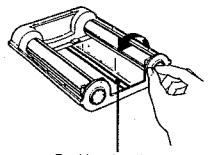
2 **Take up any slack in the ribbon to prevent it crumpling when you insert it.**

When using a new ink ribbon:



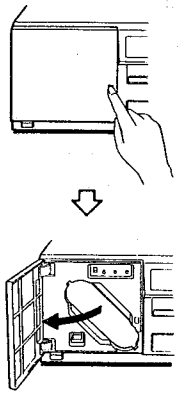
Turn the ribbon so that the mark indicating the start position is visible on the larger roll.

When using a half-used ribbon:

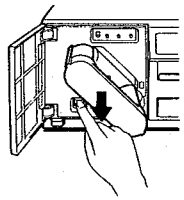


Position the black bars between the two rolls.

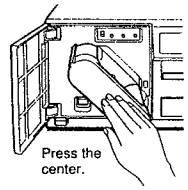
3 **Open the ribbon door**



4 **To remove an ink ribbon cassette from the printer, press the EJECT button and lift out the cassette.**

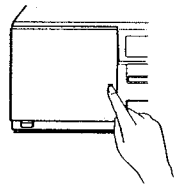


5 **Insert the new ink ribbon cassette and push it firmly in the center until it clicks into place.**



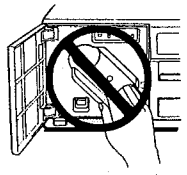
Press the center.

Close the ribbon door.



Caution

Never put your hand into the ink ribbon cassette dock. The thermal head becomes very hot. You may burn yourself if you touch it.

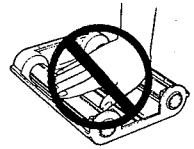


Notes on storing ink ribbons

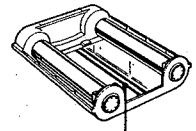
- Avoid placing the ink ribbon cassette in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Keep the ribbon packaging for storing partially used ribbons.

Notes on using the ink ribbon cassette

- Do not touch the ribbon or place the cassette in a dusty area. Finger prints dust on the ink ribbon will leave imperfections on your printouts.



- If your ink ribbon should tear, repair the tear with transparent tape. There should be no problem in using the remaining portion of the ribbon.



Transparent tape

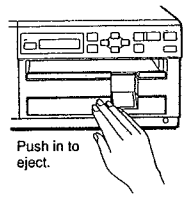
Note

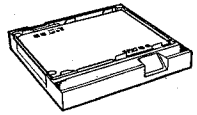
If you have to repair a ribbon with transparent tape, advance the ribbon to the next group of black bars before inserting the ink ribbon cassette into the printer.

1-5. LOADING PRINT PAPER

Load paper into the color video printer as follows.

1 Remove the paper tray.



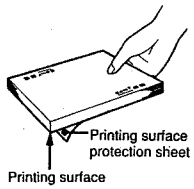


Remove the protection sheet if there is one in the tray.

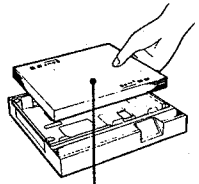
2 Load the print paper in the paper tray.

Ruffle the stack of printing paper before placing it into the tray.

Hold the print paper with the protection sheet at the bottom, being careful not to touch the printing surface.

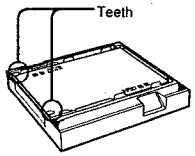


Place the paper in the paper tray.



The black marks should be facing up.

Load the paper securely under the teeth.

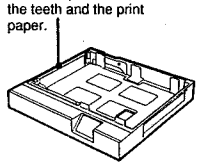


The paper will be fed into the printer from the top of the tray.

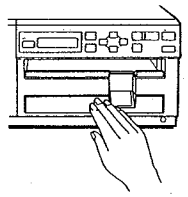
Note

The paper tray holds up to 100 sheets of paper (one package) or 50 OHP transparencies (one package). If you try to load more sheets than this, an error is likely to occur.

Load paper up to this line. Leave a space between the teeth and the print paper.

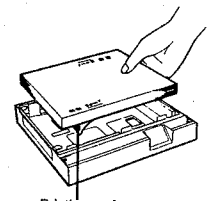


3 Slide the paper tray back into the printer. Push it in until it clicks into place.



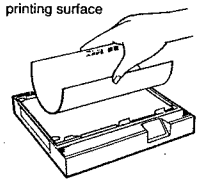
Loading transparencies (OHP sheets)

When placing OHP transparencies into an empty tray, load the transparencies with the protection sheet on the bottom.



When placing OHP transparencies into a tray which already contains paper, load the sheets on top of the paper with their printing surface down and the back marks facing up.

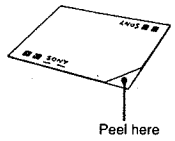
Do not touch the printing surface



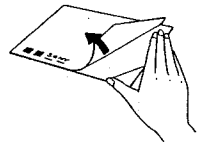
It is not necessary to include a protection sheet.

Preparing OHP transparencies

After you have printed on an OHP sheet, peel it from its backing paper. Never attempt to peel it before printing.

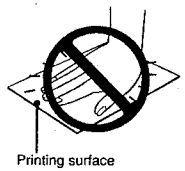


Peel carefully



Note on using paper and OHP transparencies

Do not touch the printing surface. Fingerprints or dust stuck to the printing surface will remain as imperfections. When handling the paper and OHP sheets, keep the protection sheet in place to keep the printing surface clean.



Notes on storing paper and transparencies (OHP sheets)

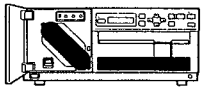
- Avoid placing the paper or OHP sheets in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Keep the packaging for storing unused paper and OHP transparencies.

1-6. MAKING PRINTS

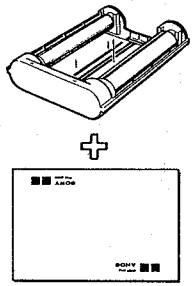
This section explains how to print a full-size image. The following explanation covers the basic printing operation.

Note
If your printer is set to print four or nine reduced images, change the setting to full-size before printing.

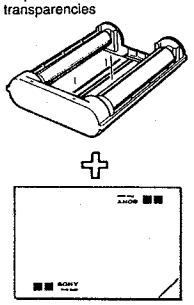
1 Check the ink ribbon cassette and the paper.



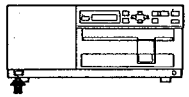
To print on paper



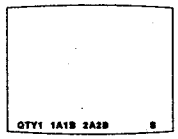
To print on OHP transparencies



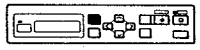
2 Turn on the printer and the video monitor.

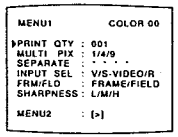


When the printer is ready, the following screen appears.



3 Press the MENU button to display the MENU 1 screen.

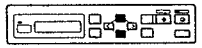


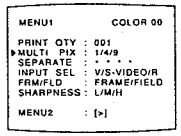


4 Select the input signal for the image you want to print.

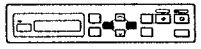
See "Selecting the Input signal."

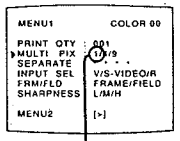
5 Move the cursor ► to MULTI PIX by pressing the △ or ▽ buttons.





6 Switch 1 to green by pressing ◁ or ▷ buttons.





1 is switched to green.

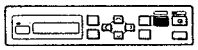
Anything printed out subsequently will be a full-size image.

To return to the regular screen:
Press the MENU button.

7 Play back the video images. (to be continued)

Continued

8 When the image you want to print is on the screen, press the MEMORY IN button to store it in memory.

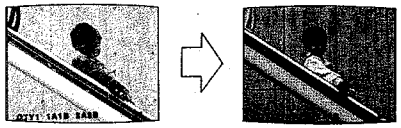


The stored image appears on the screen.

When the stored image is blurred

A quickly moving image may be blurred when it is printed. If this happens, switch the memory mode from frame to field to eliminate the blur. However, since printing in field mode has lower resolution than in the frame mode, the print quality will be slightly lower. (For details, see page 62).

The blur is eliminated.



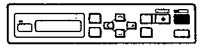
Frame mode　　Field mode

To change the image to print

① Press the SOURCE/MEMORY button to return to the playback image.
② Press the MEMORY IN button again to store a new image in memory. The previous image is replaced with the new one.

9 Press the PRINT button.

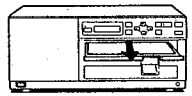
It takes about one minute to print one page.



Blinks during the printing process. Printing starts - yellow - magenta -cyan - printing ends.

Note

The paper is ejected over the print tray at several stages during the printing process. Do not handle the paper until printing has been completed.



When it is complete, the printout is pushed forward.

To stop printing before completion

Press the STOP button. Printing ends immediately and the paper is ejected to the print tray.

When you want to see an image that is hidden below a screen message

You can erase the screen messages on the video monitor. For details, see page 74.

To store other images in memory during printing

You cannot store an image in memory where the image which you are printing is stored. Select another memory page and store the next image in that memory page.

① Select another memory page by using the MEMORY PAGE button.
② When the image you want to print is on the monitor, press the MEMORY IN button to store it in memory.

When the printer does not print

- Whenever an error message is displayed on the video monitor, the printer will not print. To correct the error, see "Error Messages" on page 84.
- When you turn the power off, the image stored in memory is erased. To subsequently print an image, you must store it again.

Notes on preserving your printouts

- Do not place a printout under a clear vinyl desk mat or in a clear plastic file that contains a plasticizer. Also, avoid leaving plastic erasers on top of the prints. The ink will stick to the plastic surface.
- Be sure not to leave the printed surface of an OHP transparency pressed against anything (even objects that are not plastic or vinyl). The ink may come off onto the other surface.
- To avoid degradation of the color do not place the prints in locations subject to:
  – direct sunlight
  – high temperatures
  – high humidity

Making more than one copy of an image

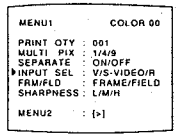
You can print up to 100 copies of a stored image. Do the following before printing or while printing the first copy. You can change the designated number of copies at any time before printing has ended.

When controlling the printer with the supplied remote control unit
You can designate or change the number of copies on the regular screen, instead of the menu screen, by using the PRINT QTY + and – buttons. You can designate or change the number even during printing.

Display of the print quantity
The number of copies is displayed on moniter screen and printer window display as follows.

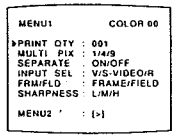
Qty	Monitor display	Printer window display
1	QTY1	Q1
10	Q010	10
99	Q099	99
100	Q100	00

1 **Press the MENU button.**

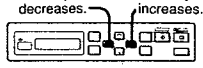


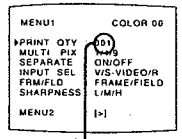
MENU 1 appears.

2 **Move the cursor ► to "PRINT QTY" by pressing the [ ] or [ ] buttons.**



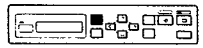
3 **Set the number of copies by pressing the [ ] or [ ] buttons.**



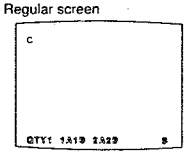


Number of copies (QTY stands for quantity)

4 **Press the MENU button to return to the regular screen.**



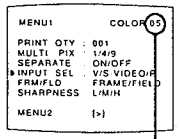
Regular screen



The printer prints out the same image until the ribbon or the paper has been exhausted.

When the paper is exhausted during printing
Fill the tray with paper and press the PRINT button again.

To check how much ink ribbon remains
Press the MENU button.



Indicates the remaining quantity.

Notes on remaining ribbon

- The video monitor displays the remaining number of printouts available from the ribbon last used for printing, even when a new ribbon is inserted. After the printer makes the first print out, the remaining ribbon of the new ribbon is displayed.
- The printer does not recognize any change when a ribbon is replaced by another of the same type (for example, two color ribbons) and continues subtracting from the original count as prints are made. The correct number of remaining printouts is not displayed. The print function, however, is unaffected.

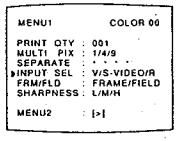
1-7. ADJUSTING PRINT QUALITY AND COLOR

This section explains how to adjust and store a picture's sharpness, color intensity and contrast.

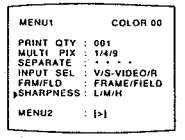
Adjusting the sharpness

You can set the sharpness of the printout to one of three levels: L (Low), M (Medium) or H (High). A printout appears softer or sharper depending on the definition of the subject outline. Change this setting before printing as necessary. The new setting remains valid until you enter a new setting - even if you turn the power off.

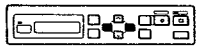
1 **Press the MENU button.**

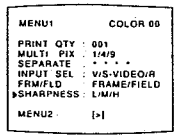


2 **Move the cursor ► to SHARPNESS by pressing the △ or ▽ buttons.**



3 **Switch the letter corresponding to the desired sharpness to green by pressing the ◁ or ▷ buttons.**





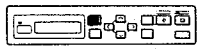
L (Low): soft outline
M (Medium): normal outline
H (High): sharp outline

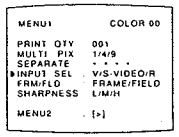
Note
The image on the video monitor does not reflect any change in the sharpness setting.

Displaying the COLOR ADJUST menu screen

1 **Press the SOURCE/MEMORY button to display the image stored in memory.** (You can also adjust the input image.)

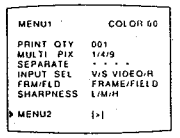
2 **Press the MENU button.**

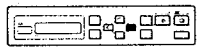


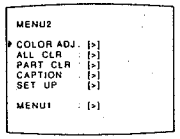


The MENU 1 screen appears.

3 **Move the cursor ► to MENU 2 by pressing the △ or ▽ buttons, then press the ⬚ button.**

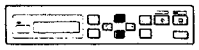


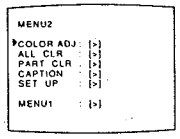


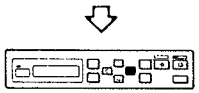


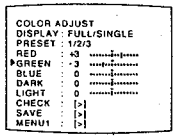
The MENU 2 screen appears.

4 Move the cursor ► to COLOR ADJ by pressing the ▽ or △ buttons, then press the ▷ button.





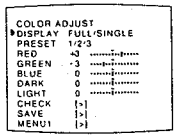




The COLOR ADJUST menu appears.

How to read the COLOR ADJUST menu

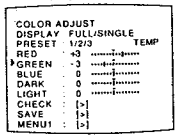
This part outlines each item of the COLOR ADJUST menu. Read it thoroughly before adjusting the color for the first time.



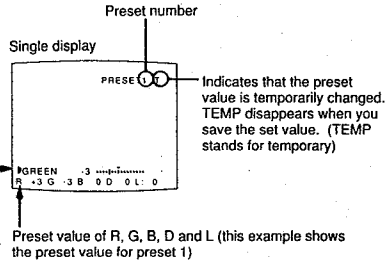
DISPLAY

Selecting the method of displaying the color adjusting screen

Full display



Single display



PRESET

Three presettings are available. Select one of these three. The stored values for color intensity and picture contrast are called from memory and appear against each item. TEMP appears at the right of this line when you change the presetting to indicate that the values only temporary.

RED/GREEN/BLUE

Adjusting the color intensity (see page 42)

DARK/LIGHT

Adjusting the picture contrast (see page 44)

CHECK

Used to erase the menu screen when it is difficult to check the adjusted color. Move the cursor ► to CHECK. The menu screen is not displayed for as long as you keep the ▷ button held down. We recommend that you check the set color before storing it.

SAVE

Storing the set value for the color in the selected presetting number.

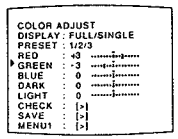
MENU 1

Returning to MENU 1

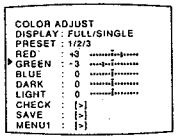
Adjusting the color intensity

Adjust a printout's color intensity by separately adjusting the r (red), g (green) and b (blue) parts of the image while it is displayed on the video monitor.

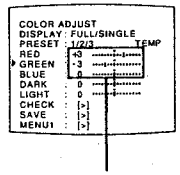
1 Display the COLOR ADJUST menu screen.



2 Move the cursor ► to one of three color components; R, G and B by pressing the △ or ▽ buttons.



3 Adjust the intensity of the selected color component by pressing the ◁ or ▷ buttons.



Color component is divided into 16 scales from –7 to +8, indicated by a value and graph. 0 and the center of the graph correspond to the standard color.

The intensity increases in the + direction and decreases in the – direction.

By pressing the ◁ and ▷ buttons together, you can quickly reset the value to 0 (standard value). Pressing the ◁ and ▷ buttons on the supplied remote control unit does not allow you to reset the value to 0.

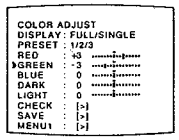
Note
This set value is only temporary. This setting is cleared when you turn the printer off.

When it is difficult to check the settings because of the display on the monitor
To check your settings, you can erase the display using either of the following two methods.

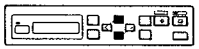
- Select the SINGLE screen.
  Move the cursor ► to DISPLAY and switch SINGLE of FULL/ SINGLE to green by pressing the ◁ or ▷ buttons.
  You can select the item to be adjusted by pressing the △ or ▽ button on the SINGLE screen.
- Erasing the display temporarily
  Move the cursor ► to CHECK and press the ▷ button. For as long as you keep the ▷ button held down, the display does not appear on the screen.

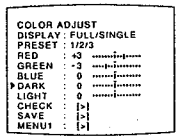
Adjusting the picture contrast
Adjust the picture contrast of a print by adjusting the extremes of dark and light of the image with the COLOR ADJUST menu screen, while viewing the image on the video monitor.

1 **Display the COLOR ADJUST menu screen.**



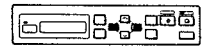
2 **Move the cursor ► to either DARK or LIGHT by pressing the △ or ▽ buttons.**

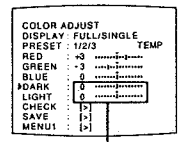




DARK: Adjusts the dark area of an image
LIGHT: Adjusts the light area of an image

3 **Adjust the selected picture contrast by pressing the ◁ or ▷ buttons.**





Contrast is divided into 16 scales from –7 to +8, and indicated by a set value and graph. 0 and the center of the graph correspond to the standard contrast.
The contrast in the dark area or light area is strengthened in the + direction and weakened in the – direction.

By pressing the ◁ and ▷ buttons together, you can quickly reset the value to 0 (standard value).
Pressing the ◁ and ▷ buttons on the supplied remote control unit does not allow you to reset the value to 0.

Note
This set value is only temporary. This setting is cleared when you turn the printer off.

When it is difficult to check your settings because of the display on the monitor.
To check your settings, you can erase the display using either of the following two methods.

- Select the SINGLE screen.
  Move the cursor ► to DISPLAY and switch SINGLE of FULL/SINGLE to green by pressing the ◁ or ▷ buttons.
  You can select the item to be adjusted by pressing the △ or ▽ button on the SINGLE screen.
- Erasing the display temporarily
  Move the cursor ► to CHECK and press the ▷ button. For as long as you keep the ▷ button held down, the display does not appear on the screen.

When the image in a light area of the print does not appear
Select LIGHT and reduce the set value by moving the green scale to the left.

If you still cannot output a good printout
Set the GAIN AUTO/MANUAL selector to MANUAL and, while watching the image on the video monitor, turn the GAIN control counterclockwise until an image in a light area can be seen.

When the image in a dark area of the print does not appear
Select DARK and reduce the set value by moving the green scale to the left.

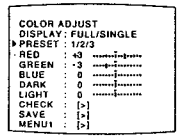
If you still cannot output a good printout
Set the GAIN AUTO/MANUAL selector to MANUAL and, while watching the image on the video monitor, turn the GAIN control clockwise until an image in a dark area can be seen.

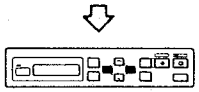
Storing the new picture adjustments in a presetting

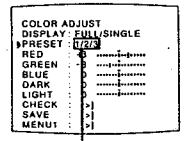
You can store up to three presettings. The printer will retain these even if you turn the power off.
This is useful when you are using more than one video player, each of a different quality, and when you want to print images with different color qualities and picture contrasts.

1 **Display the image to adjust.**

2 **Move the cursor ► to PRESET by pressing the △ or ▽ buttons. Switch the number corresponding to the preset to adjust to green by pressing the ◁ or ▷ buttons.**





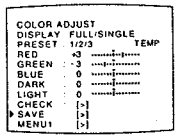


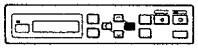
The selected presetting number is switched green.

3 **Adjust the color intensity and the picture contrast. (See pages 42 to 45.)**

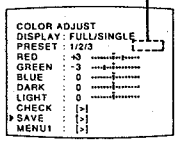
Note
After you complete the color adjusting, move the cursor ► to CHECK and keep the ▷ button held down to check the adjusted color.

4 **Move the cursor ► to SAVE by pressing the △ or ▽ buttons, then press the ▷ button.**





TEMP disappears



The setting made in step 3 is stored.

To call a stored presetting
Select PRESET from the COLOR ADJUST menu and switch the number corresponding to desired presetting to green.

TEMP displayed in step 3
If you change the settings for a called preset, TEMP appears. This TEMP disappears if you store the setting which you changed, in step 4. You can also print while TEMP is displayed. The printer prints with the temporarily set value, however. By turning the printer off, this temporarily set value is cleared and the settings are reset to those stored before you changed the settings.

1-8. USING THE MEMORY

Frame mode and field mode

This section explains how to use and set the memory.
To print an image, you must first store it in memory.
Although the memory usually stores a single image, you can set it to store two full-size images having lower resolutions.
As described above, one memory consists of two fields, 1A and 1B. You can use these two fields together or separately. The memory use status is called the "memory mode." There are two memory modes as follows.

- Frame mode
  Two field memories are used together to store one image.
- Field mode
  One field memory, either 1A or 1B, is used to store one field of an image.

The Sony UP-5200MD has one memory which consists of two memory fields.

When you select FRAME mode to use two fields to store one image, 1A 1B appears on the video monitor. When you select FIELD mode where you use one field to store one image, 1A 1B appears.

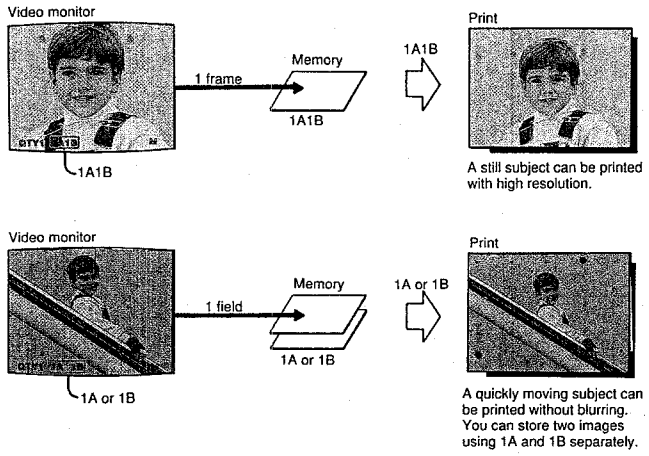
The Sony UP-5250MD has two memories.

When you select the FRAME mode, 1A1B 2A2B appears on the video monitor. When you select the FIELD mode, 1A 1B 2A 2B appears.

Note
This section explains the use of the memory using the UP-5200MD (which has one memory) as an example. The principle is the same for the two-memory UP-5250MD.

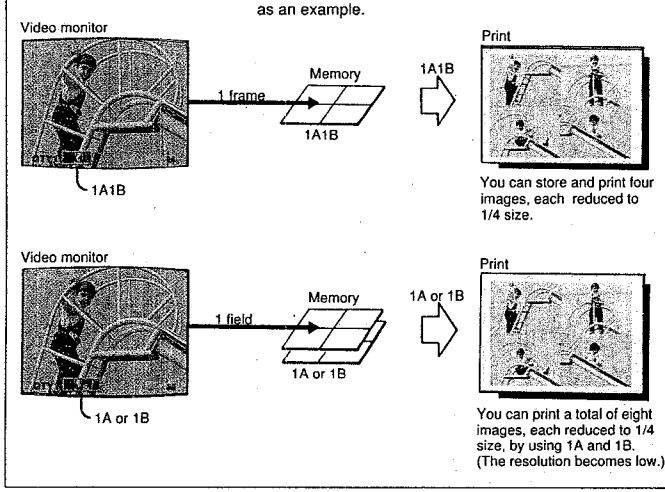
Frame mode and field mode of a full image and reduced images

Full image



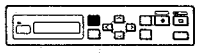
Four reduced images

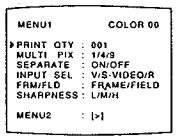
You can make up to nine reduced images. However, this section explains reduced images using four reduced images as an example.



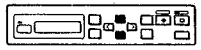
Setting the memory mode

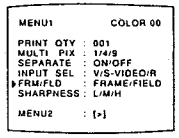
1 **Press the MENU button to display the MENU 1 screen.**



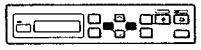


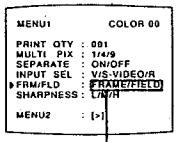
2 **Move the cursor ▶ to FRM/FLD by pressing the △ or ▽ buttons.**





3 **Select either of the two memory modes by pressing the ◁ or ▷ buttons.**



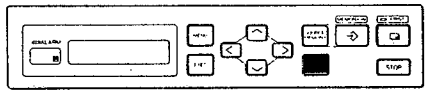


The selected memory mode is switched to green.

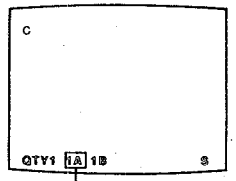
FRAME: Usually, we recommend that you print in this mode.
FIELD: Select this mode to reduce the blurring when you print a quickly moving.

Selecting the memory page

The memory used to store an image is called a memory page. Even when we use two memory fields in the frame mode to store one image, we call this 1A1B one memory page.
Switch the color of the memory page, to be used to store the image, to green, by pressing the MEMORY PAGE button.



Video monitor



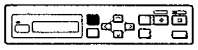
Switch 1A to green to use 1A in field mode.

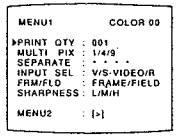
This section explains how to make prints by combining images as follows; Four reduced images, nine reduced images, print with an insert

Making a printout with four images or nine images

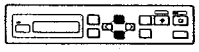
By selecting the appropriate memory setting, you can make a multiple-image print with four reduced images or nine reduced images. You can also make a multiple-image print with white divisions.

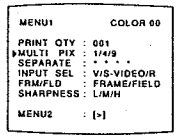
1 **Press the MENU button to display the MENU 1 screen.**





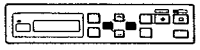
2 **Move the cursor ► to MULTI PIX by pressing the △ or ▽ buttons.**

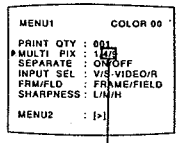




To make a multiple-image printout with four reduced images;
Switch the number 4 to green by pressing the ◁ or ▷ buttons.

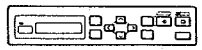
To make a multiple-image printout with nine reduced images;
Switch the number 9 to green by pressing the ◁ or ▷ buttons.

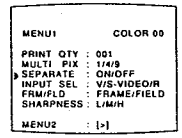




4 or 9 is switched to green.

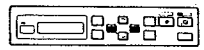
3 **Move the cursor ► to SEPARATE by pressing the ▽ button.**

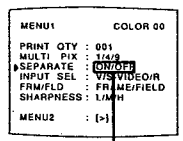




To make a multiple print with divisions
Switch ON to green by pressing the ◁ or ▷ buttons.

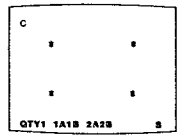
To make a multiple print without divisions
Switch OFF to green by pressing the ◁ or ▷ buttons.





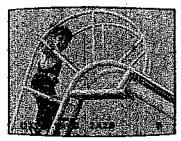
ON or OFF is switched to green.

4 **Press the MENU button to return to the regular screen.**



5 **Play back the video images.**

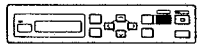
This shows that four-image printing was selected in step 2.

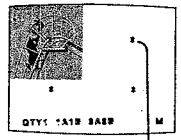


The green star * indicates where the image will be stored.

6 **When the image you want to print appears on the monitor, press the MEMORY IN button to store the image in the memory.**

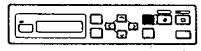
The image stored in memory appears on the video monitor.



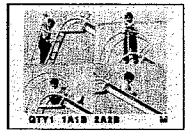


The image is stored where there the green star * is positioned. Then, the green star * moves to the next position.

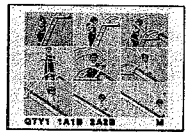
7 **Press the SOURCE/MEMORY button to return to the playback picture.**



8 **Repeat steps 6 and 7 to store four or nine reduced images.**



Four-image screen



Nine-image screen

When you want to replace a stored image
Move the green star * to the image you want to delete by pressing the ◁ or ▷ buttons and store the new image.

9 **Press the PRINT button to make prints.**

Notes

- If there is already an image under the green star *, it will be replaced by the new image.
- The green star * automatically moves to the next image whenever you re-peat steps 6 and 7. To skip a previously stored image and keep it in memory, move the green star * by pressing the ◁ or ▷ buttons.
- The initial setting for printing with or without divisions is set to ON (with divisions). When you use this printer for the first time and make a printout without divisions, change the setting to OFF.
- When the power is turned on again, the setting is reset to ON anytime.

Making a printout with an insert

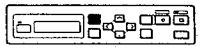
You can make printouts with an insert by using four- or nine-image printing.

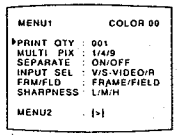
Example:
Making printouts with one of four reduced images inserted

1 **Play back the video image and press the MEMORY IN button to store the background image (full-size).**

Note
If your printer is set to print four or nine reduced images, change the setting to fullsize before printing.

2 **Press the MENU button to display the MENU 1 screen.**





3 **Move the cursor ► to MULTI PIX by pressing the ▽ or △ buttons and switch the number 4 to green by pressing the ◁ or ▷ buttons.**

4 **Move the cursor ► to SEPARATE by pressing the △ or ▽ buttons.**

Then switch OFF to green by pressing the ◁ or ▷ buttons.

Note
If you print with SEPARATE set to ON, an image is printed with white divisions.

5 **Press the MENU button to return to the regular screen.**

6 **Move the green star * to the point where the reduced image is to be inserted by using the ◁ or ▷ buttons.**

7 **Play back the image. Press the MEMORY IN button when the image you want to insert appears.**

The insert image is stored in the memory page selected in Step 6.

8 **Press the PRINT button to make a printout.**

Note
You cannot print an image stored in a different memory.

Storing more than one image

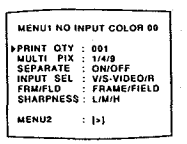
You can store more than one image in memory.

Memory mode	Number of images you can store (for the UP-5200MD)	Number of images you can store (for the UP-5250MD)
Frame mode	One [1]	Two [2]
Field mode	Two [3]	Four [4]

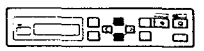
1) This is for full-image printing. Four for four-image-printing and nine for nine-image-printing
2) This is for full-image printing. Eight for four-image-printing and 18 for nine-image-printing
3) This is for full-image printing. Eight for four-image-printing and 18 for nine-image printing
4) This is for full-image printing. 16 for four-image-printing and 36 for nine-image printing

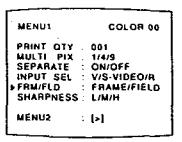
Example:
When you are using the UP-5200MD printer, you store two images in the field mode

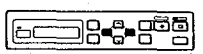
1 **Press the MENU button to display the MENU 1 screen.**

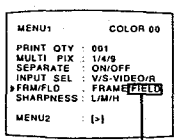


2 **Move the cursor ► to FRM/FLD by pressing the ▽ or △ buttons, then select the memory mode by pressing the ◁ or ▷ buttons.**



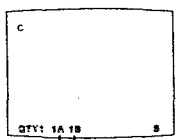






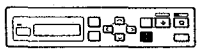
In this example, you select FIELD.
Thus, switch FIELD to green.

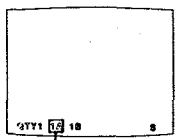
3 **Press the MENU button to return to the regular screen.**



Two field

4 **Select the memory page by pressing the MEMORY PAGE button.**



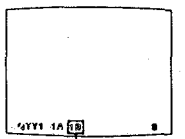


Selected memory is switched to green.

5 **Play back the image. Press the MEMORY IN button to store the image in memory.**

The image is stored in 1A.

6 **Select other memory page for storing another image by pressing the MEMORY PAGE button.**



Selected memory is switched to green.

7 **Play back the image. Press the MEMORY IN button to store the desired image in the memory.**

The image is stored in 1B.

8 **Select the memory page where the image you want to print is stored by using the MEMORY PAGE button.**

Press the PRINT button to make a printout.

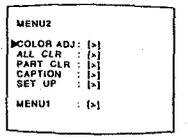
The image in 1B is printed

Deleting an image stored in memory

1 **Select the memory page containing the image you want to delete by pressing the MEMORY PAGE button.**

2 **Press the MENU button to display the MENU 1 screen. Move the cursor ► to MENU 2 by pressing the △ or ▽ buttons, then press the ▷ button.**

The MENU 2 screen appears.

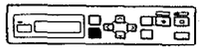


3 **Move the cursor ► to ALL CLR or PART CLR, then press the ▷ button.**

To delete the full image
Move the cursor to ALL CLR.
To delete a reduced image
Move the cursor to PART CLR.

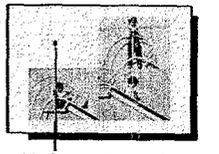
Note
When you move the cursor ► to PART CLR, the reduced-image screen selected at MULTI PIX on MENU 1 appears. If you want to delete the other reduced images, return to the MENU 1 screen and change the MULTI PIX settings.

4 **Press the EXEC button.**



The screen or location from which the image was deleted becomes whitish.

To delete the reduced images
Move the green star * to the location where there is the image you want to delete by pressing the ◁ or ▷ buttons, then press the EXEC button.



The image in this position is cleared.

When you are deleting reduced images, repeat step 4 until you have to delete all the images you want to delete.

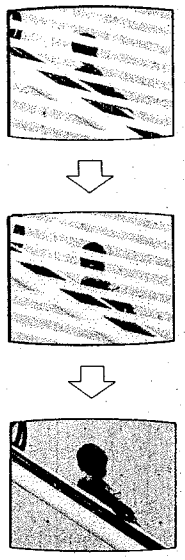
1-9. MAKING PRINTS WITH CAPTION

Making printouts in field mode

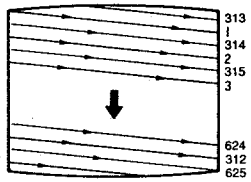
You can change the memory mode from frame to field to print an image stored in the frame mode. When a printout is blurred in frame mode, switch to field mode and print the image. You can thus eliminate blurring.

Why does setting the memory to FIELD eliminate blurring?

A monitor displays a video image by sending electron beams across its screen; first every other line, then returning to the top and filling in the spaces to the bottom. Each of the two runs from top to bottom is a field. Together they make up a frame.



Video cameras record images in these half-frames, or fields. The example below illustrates how a quickly moving subject is recorded in two parts - once from top to bottom with alternate gaps, and then again from the top to the bottom filling in every other line. If the subject moves within 1/60th of a second from the first tracking, the second tracking will be slightly offset. When 1A and 1B, each corresponding to one of the two fields of the stored image, are overlapped in the frame setting, 1A1B, the image will appear jittery on the monitor and blurred when printed. Separated into its two fields, however, a quickly moving subject will not be blurred.



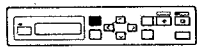
A field is drawn in 1/60th of a second. A frame is completed in 1/30th of a second.

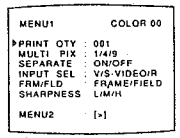
Displaying the CAPTION input screen

You can enter a caption, such a data or comments, in small characters below the image. You can input 60 characters. When you use a computer connected to the RS-232C connector, you can input up to 320 characters (two lines each for the top and bottom of the screen, four lines in total) in the NARROW size and NORMAL size mode and 160 characters (one line each for the top and bottom, two lines in total) in the WIDE size mode.

This section explains how to enter a caption. The order is as follows. • Displaying the CAPTION input screen • Entering a caption • Making printouts with a caption

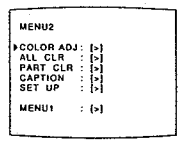
1 **Press the MENU button to display the MENU 1 screen.**





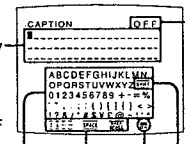
2 **Move the cursor ► to MENU 2 by pressing the ▽ buttons, then press the ▷ button.**

The MENU 2 screen appears.



3 **Move the cursor ► to CAPTION, then press the ▷ button.**

The CAPTION input screen appears.



Character display area
This part appears in green when ON is displayed, and in white when OFF is displayed.

ON is displayed when printing with a caption and OFF when printing without a caption. (The factory-setting is OFF.)

Character entry area
The cursor is positioned to the letter or symbol in green.

By switching SHIFT to green and pressing EXEC, capital letters are changed to lower-case letters, or lower-case letters are switched to capital letters.

Symbols and words with = are used to enter a caption.

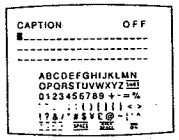
Selects whether to print with a caption

For the CAPTION input display, the video monitor and the printer display window differ as shown in the table. Their meanings, however, are the same.

Monitor display	Printer display
SPACE	SP
BACK SPACE	BS
OFF	OFF
ON	ON
SHIFT	SF sf

Entering a caption

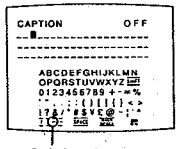
1 **Display the CAPTION input display.**



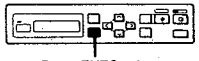
2 **Move the cursor ■ to where you want to enter in the character display area.**

To move the cursor
Switch the arrow of the direction where you want to move to green. Then press the EXEC button.
The ■ moves in the green arrow direction whenever you press the EXEC button.

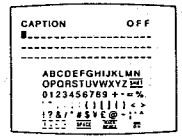
Example: To move the cursor ■ to the left by two.



Switch ← to green

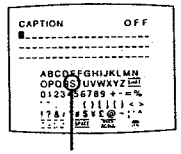


Press EXEC twice

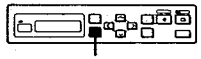


3 **Switch the character you want to enter to green by pressing the △ ▽ ◁ or ▷ buttons, then press the EXEC button.**

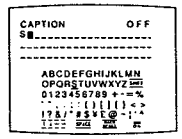
Example: To enter S.



Switch S to green



Press EXEC



The selected character appears in blinking white ■.
SPACE: one space

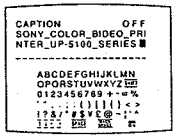
4 **Repeat steps 2 and 3 to enter the remaining characters of a caption.**

Entered characters are stored and kept even after you turn off the power.

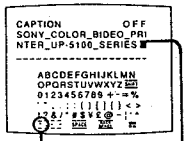
Note
When the character display area is displayed in white, the setting for CAPTION is OFF, so that you can not add a caption to a printout. See "Making printouts with a caption" on page 67.

When you enter a wrong character
Switch the BACK SPACE to green by pressing the △ ▽ ◁ or ▷ buttons, then press the EXEC button. The character to the left of ■ will be deleted.

When replacing a previously entered caption
Example: To replace B of BIDEO with V.

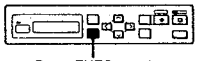


1 **Switch the up arrow (↑) to green by pressing the △ ▽ ◁ or ▷ buttons, then press the EXEC button.**

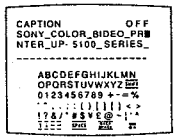


To move ■ to the above position

Move the cursor to ↑.

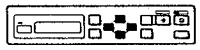


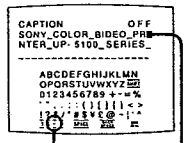
Press EXEC one time.



The white cursor ■ move to the above position.

2 **Switch the left arrow to green and press the EXEC button until the white cursor ■ moves to the character you want to replace.**

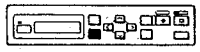


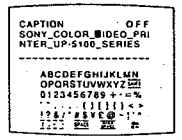


To move ■ to B

Move the cursor to ←.

Whenever you press the EXEC button, the white cursor shifts by one position.

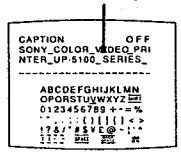




3 **Enter the correct character over the wrong character.**

The previously entered character is replace with the new one.

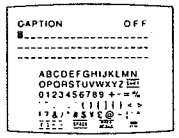
B was replaced with V and ■ moved to the right.



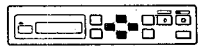
Making printouts with a caption

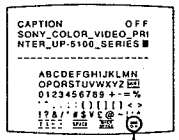
The factory setting for CAPTION is OFF (the printer prints without adding a caption). Set the CAPTION function to ON as follows.

1 **Display the CAPTION input screen.**



2 **Switch ON to green by pressing the △ ▽ ◁ or ▷ buttons.**





Switched to green.

3 **Press the EXEC button.**

Note

- When you select four- or nine-image printing with white divisions, you can not add a caption.
- When you print in field mode, any caption will not be printed clearly.

1-10. ERROR MESSAGES

When the paper is exhausted, jams or other problems occur, the ALARM lamp lights in orange and an error message stating the problem appears on the video monitor and in the printer window display. Note the message and respond as necessary to rectify the error.

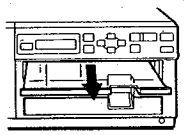
END OF RIBBON

The ink ribbon has been completely used.
Insert a new ribbon.

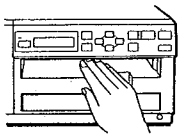
FEED ERROR

A feed error occurs when the paper jams as it is being fed into the ribbon area.

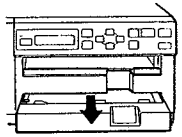
1 **Remove the print tray.**



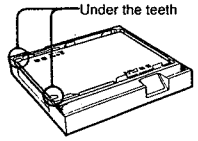
2 **Reach through the opening and slide the paper back in the paper tray.**



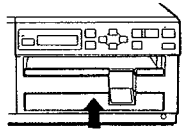
3 **Remove the paper tray.**



4 **Straighten the paper in the tray properly below the teeth.**



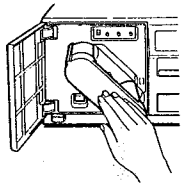
5 **Replace the print tray and paper tray.**



INSERT RIBBON

The ink ribbon cassette is not securely installed.

Insert the ink ribbon cassette firmly.

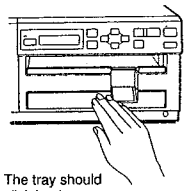


Push the cassette firmly in the center so that it clicks into place.

INSERT TRAY

The paper tray is not properly mounted.

Mount the tray correctly.



The tray should click in place.

NO INPUT

The printer is not receiving an input signal.

Check that:
- The INPUT SELECT setting is correct on MENU 1.
- The video equipment is playing.
- The connections between the video equipment and the printer are secure.

NO PAPER

The paper tray is empty.

Fill the tray with paper or transparencies.

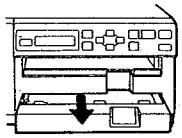
PLEASE WAIT

If you turn the printer off during printing, the printer ejects the unfinished printout. PLEASE WAIT appears on the video monitor when you turn the printer on again. Wait about 20 seconds before operating the printer.

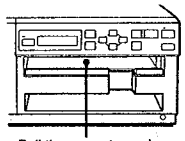
PROCESS ERROR

A process error occurs when the paper jams during the printing process.
When this message appears before the printer starts printing, remove the paper similarly in the same way as when FEED ERROR appears, then reload the paper.
When this message appears during printing, remove the paper and load the paper again.

1 **Remove the paper tray.**
If you can't remove the paper tray, follow the steps given for FEED ERROR.

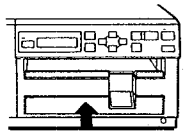


2 **Pull the paper back through the paper tray space and discard the unfinished printout.**



Pull the paper toward you.

3 **Reinsert the paper tray.**



If you turn the printer off and then on again, the paper will be ejected automatically. Any images in memory, however, will be erased.
The paper may be visible above the print tray. In this case, pull the paper out from above the print tray.

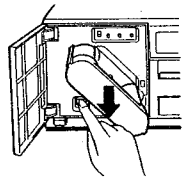
RIBBON ERROR

The ink ribbon is torn or becomes tangled in the printer.

Remove the ink ribbon cassette, take up the slack and reinsert it.

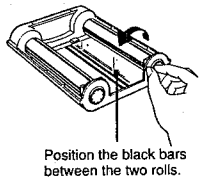
1 **If the paper has become stuck as well, remove it as described under PROCESS ERROR.**

2 **Open the ribbon door. Next, remove the ink ribbon by pressing the EJECT button.**



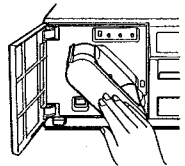
3 **Take up the slack by rolling the ribbon counterclockwise until the black bars are positioned between the rolls.**

If the ink ribbon is torn, repair it with transparent tape. There should be no problem in using the remaining portion of the ribbon.



Position the black bars between the two rolls.

4 **Reinsert the ink ribbon and close the cabinet.**

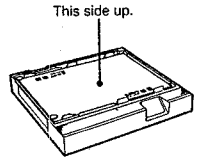


Push the cassette firmly in the center so that it clicks in place.

TURN PAPER OVER

The paper is upside down in the paper tray.

Turn the paper over so that the black mark are facing up.



1-11. TROUBLE SHOOTING

Symptom	Causes and remedies
The printer does not print.	• An error message appears on the display. → See "Error Messages" on page 84. • Check that: The power is on. All connections are correct. → See page 18 for an explanation of the connections.
The printout is blurred.	Switch to field mode and print the image. (See page 62.)
A black line appears on the printout.	See "If a Black Line Appears on Printouts" on page 75 and adjust the image. Store a new image and print it. If a black line still appears on the printout. See "Changing the screen size" and change the screen size. Store a new image and print it.
The printer makes a printout with black divisions.	See "Changing the screen size" and change the screen size. Store a new image and print it.
The printed image or caption is partially cut out.	
Nothing appears on the video monitor.	If an incorrect sync signal is input, nothing may appear on the monitor. In this case, check the video monitor first by pressing the SOURCE/MEMORY button to display the image stored in memory. If an image appears, the video monitor is working correctly. → Change the INPUT SELECT settings on the menu screen. Or, set the connected video equipment to playback mode, if it is in another mode such as stop mode.

1-12. SERVICE MODE

1-12-1. Operation :

The unit can be entered in service mode by simultaneously holding down the [MEMORY-IN] and [STOP] keys.

Check :
Once service mode is entered, one of the ≪TEST MODE SERVICE≫ screens shown in Fig1－① will appear on the screen. If you do not have a monitor, an LCD will do. The default screen after startup is ≪STAIR STEP (H)≫.

Note : Once you execute a signal in service mode, the screen selected will be stored in memory such that display will appear the next time service mode is entered. The screen ≪STAIR STEP (H)≫ appears whenever power is turned off then on again because memory is reset.

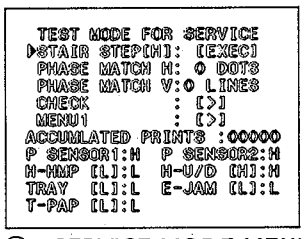
1-12-2. Generating Special Signals

In sevice mode, a display shows the types of special signals that can be generated appears on the first line. There are eight types. Screens shown below can be written into memory, and output made to the monitor or printer. These signals are extremely useful in checking print functions and signal flow after leaving memory circuits.

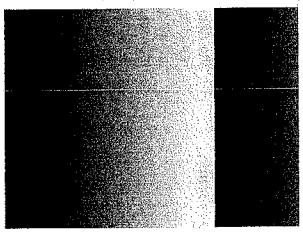
First, press the [SOURCE/MEMORY] Key to bring up the memory screen. Next, move the cursor using the [∧] and [∨] keys to select the signal line. Move the cursor using the [<] and [>] keys to select the desired signal. Eight types of signals, described below, are available. After selecting a signal, press the [EXEC] key.
Although execution time depends on the signal selected, the selected signal will be output on the monitor (monitor black while waiting) within several seconds to several tens of seconds.

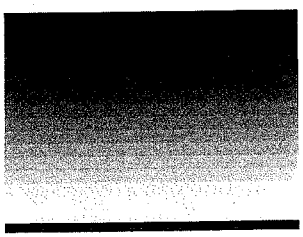
Note : Be sure that the [COLOR] adjustment is aligned with center in normal service mode test signals can be used most effectively. There are many advantages to having [COLOR] set to center.

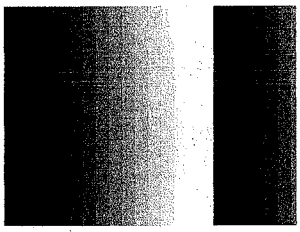
[STAIR STEP (H)]
A stair step signal such as that shown in Fig.1-② is written into memory. This signal can be used to check darkness when replacing the thermal head.

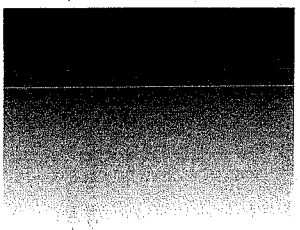


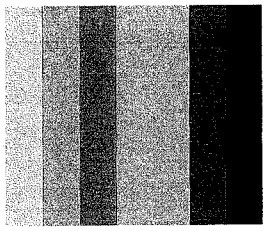
① SERVICE MODE MENU

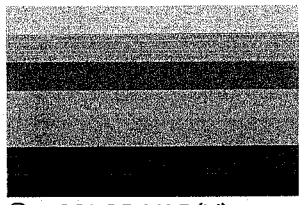

② 16 Stair step (H)

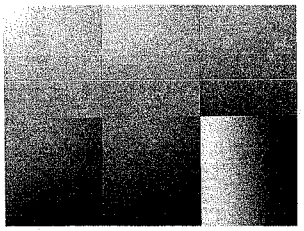

③ 16 Stair step(H)


④ RAMP(H)


⑤ RAMP(V)


⑥ COLOR BAR(H)


⑦ COLOR VAR(V)


⑧ COLOR PATTERN

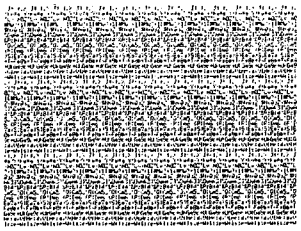

⑨ CAPTION

Fig.1 SERVICE MODE PATTERN

[STAIR STEP(V)]
A stair signal such as that shown in Fig.1 – ③ is written into memory. Print signals to the printer are sent in the vertical direction in relation to the thermal head. This signal can be used to check for any errors in sending such signals, because any shift in the vertical direction when printing this stair step pattern will indicate an error.

[RAMP (H)]
A ramp signal such as that shown in Fig.1 – ④ is written into memory. This signal can be used to check for missing bits in digital signals, or to visually identify improper resistance of the thermal head.

[RAMP(V)]
A ramp signal such as that shown in Fig.1 – ⑤ is written into memory. This signal can also be used to check for missing bits in digital signals. It is also perfect for checking if print signals are being sent normally. This is because this signal offers a constant slope in the vertical direction. A description on how to use this signal in checking memory boards is given later.

[COLOR BAR(H)]
A color-bar signal such as that shown in Fig.1 – ⑥ is written into memory. This signal can also be used in the same way as[COLOR BAR(V)].

[COLOR BAR(V)]
A color-bar signal such as that shown in Fig.1 – ⑦ is written into memory. This signal can be used when adjusting R, G, or B of the encoder.

[COLOR PATTERN]
A color-pattern signal such as that shown in Fig.1 – ⑧ is written into memory. This signal can be used in checking the masking circuit. When this signal is greatly different from the monitor, the circuit is probably bad.

[CAPTION]
A caption signal such as that shown in Fig.1 – ⑨ is written into memory. This signal can be used to check if colors are correct.

[OPTION1~]
This is provided only for design purposes and produces no pattern.

These that signals are written into the DRAM of FMY-8. The test signals are generated by the CPU on the same board before being written to DRAM. Accordingly, all signals written are accurate and have 8-bit quantized precision. Although signal flow for the UP-5100/5200 Series is a three signal flow as given by(1),(2) and (3)in Fig. 2, for this set, signal flow(2) output to monitor TV and signal flow (3) output to the printer. Simple uses for these signals during service are described below.

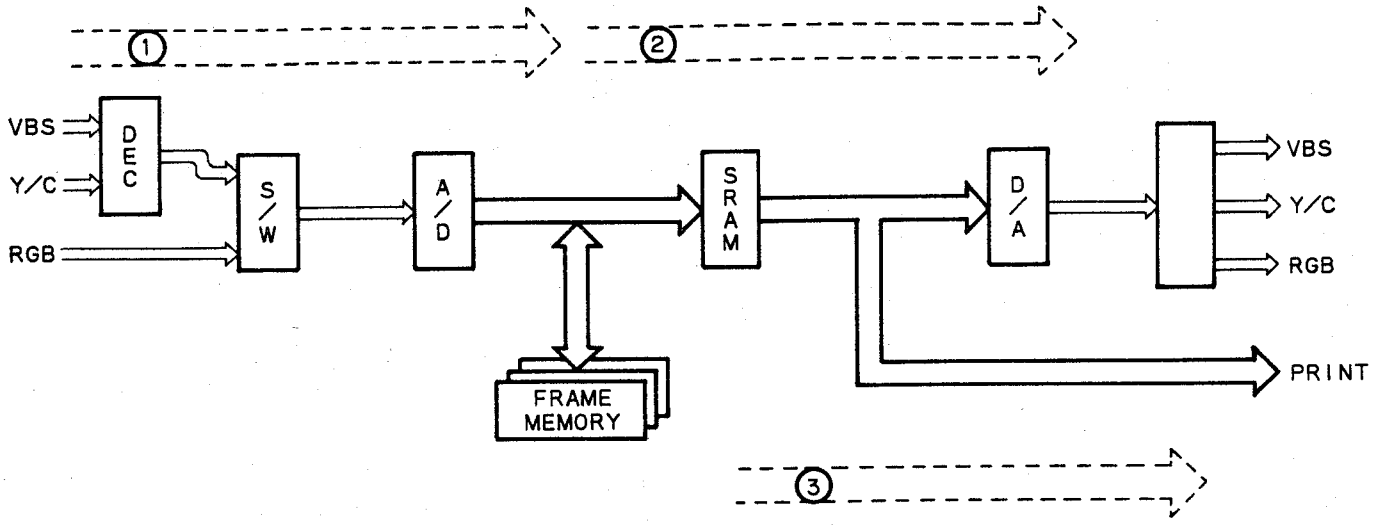


Fig.2 UP-5100/5200 Series signal flow.

[Analog Circuit Check]
There are analog circuits on both sides of the digital circuit. Since this digital circuit can generate test signals, it is possible to check if there are problems in either analog circuit. If a test signal shows the circuits to be normal even though user-input signals result in errors, there is a strong possibility that there is a problem before the digital circuit in either the IF-19 board (input circuit) or VA-26 board (decoder circuit), or if a test signal does not show, there is a strong possibility that there is a problem after the digital circuit in either VA-26 board (encoder) or IF-19 board (output circuit), or in the digital board (FMY-8 board)itself. Make a PRINT to determine in this case whether the digital or an analog circuit is the problem. If there is no problem in printing, an analog circuit is probably at fault. A further check of the FMY-8 board can be made by using the RAMP (H) test signal.

Test signals can also be used during adjustment to check voltage levels in the analog circuit after the digital circuit. Since maximum white levels and complete black levels are used in black-and white displays, test signals may even be used as reference signals. The color-bar signals may also be used during adjustment since they are output at 100% of reference level. Colors are in the order of yellow, cyan, green, magenta, red, blue and black.

[PRINT Check]
Any test signal that varies in the vertical direction is very useful whenever there are problems when printing but no problem with monitor output. The easiest of these to use is the RAMP(V) signal. Observe CN3 of the FMY-8 board while printing. If you observe a waveform such as that shown in Fig. 3, there is no problem with the FMY -8 board. The problem in this case is with the SY-9 board which controls the PRINT engine. Note that no meaningful data is transmitted during the occurrence of a vertical blanking while the [DATA ENABLE] signal is active.

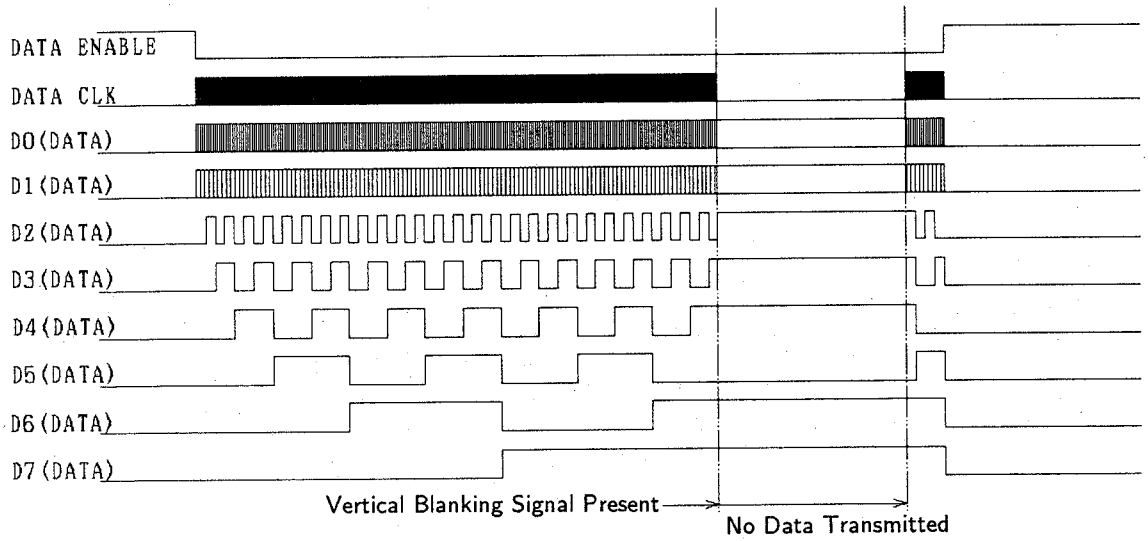


Fig.3 Example of FMY-8 board and SY-9 board PRINT Data Transmissions

1-12-3. Phase Match

This feature is provided so that the phase of the input signal and the MEMORY OUT signal may be aligned on the monitor. A phase difference between the SYNC and VIDEO signals occurs due to the fact that the pass through which the input signals pass depends on that input signal's type. Accordingly, since the MEMORY OUT signal does not pass through any pass at all no such phase difference occurs. Accordingly, the phase of the SYNC and VIDEO signals of the input signal and MEMORY OUT signal (output after first strong that same input signal in memory) will not match due to this deviation. Since the input phase is fixed as long as the user's signal source is fixed, this Phase Match function is provided to exactly match the MEMORY OUT signal output with the phase of the input signal. The MEMORY OUT signal can be shifted right in steps of 22 sampling clocks, or left in steps of 36 sampling clocks.

1-12-4. CHECK

The picture tube display can be made to disappear by continuously holding down the [>] key.

1-12-5. MENU 1

[MENU 1] can be entered without leaving service mode by pressing the [>] key.

1-12-6. Total number of Printed Sheets Check

This check gives the total number of sheets that this printer has printed up to now. This can be used to predict the remaining life of the thermal head.

1-12-7. Sensor Level

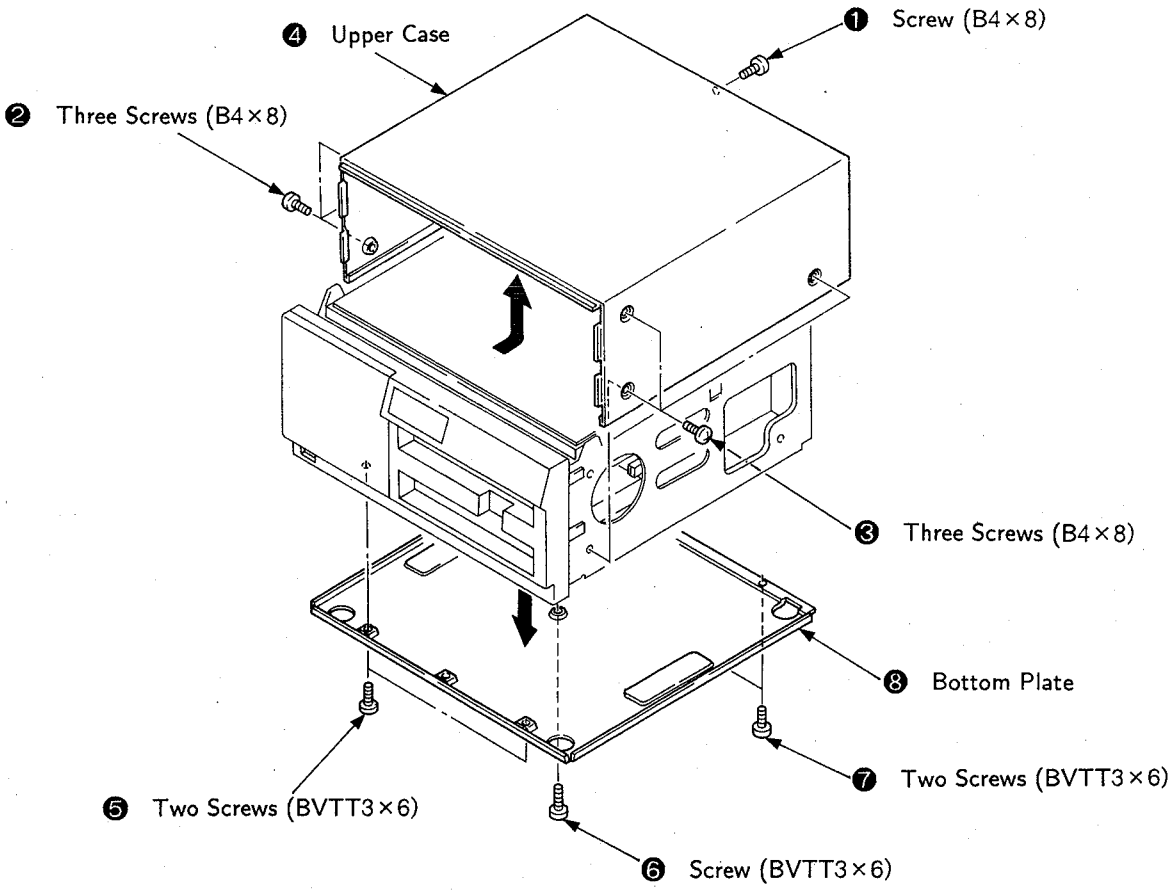
This feature displays the sensor level. Note that this is not a realtime display. The value displayed is that stored in memory from the last time service mode was entered. If you wish to see as recent a value as possible, simultaneously press the [MEMORY-IN] and [STOP] keys.

1-12-8. Thermal Head Temperature

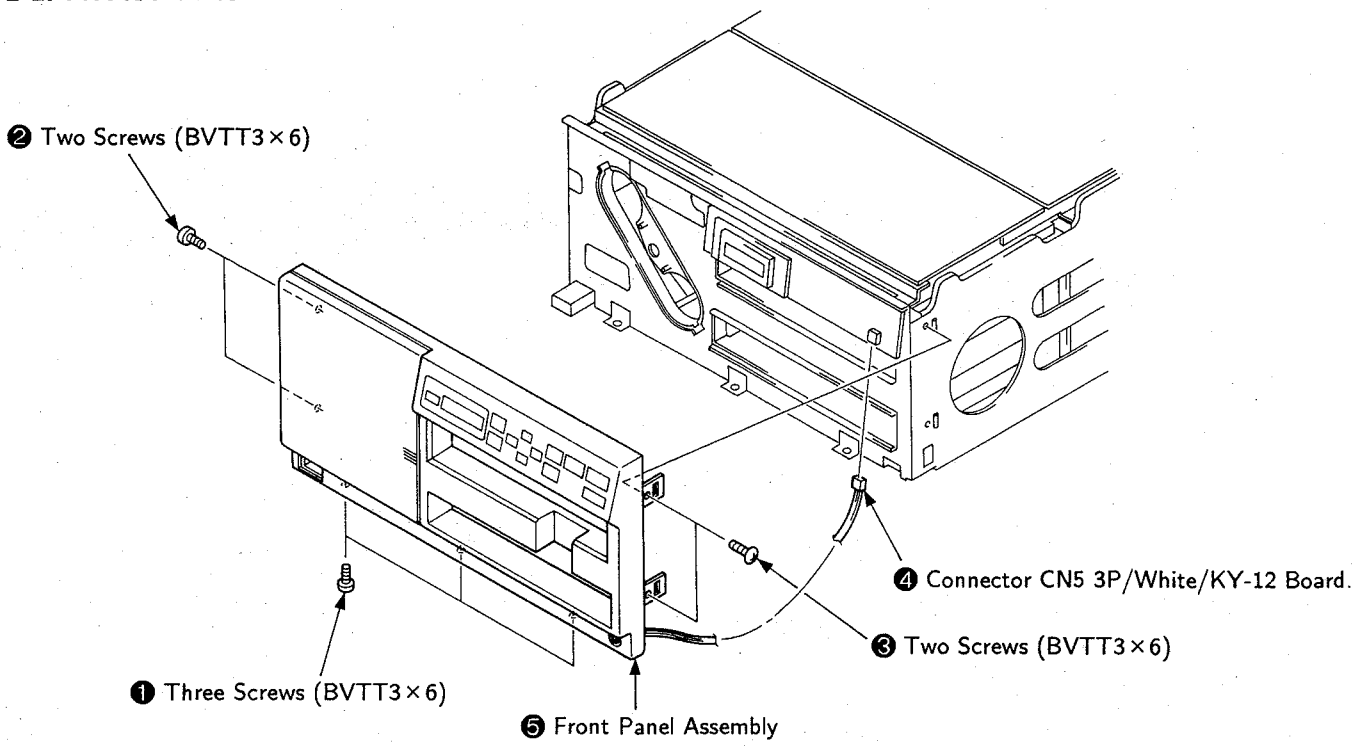
This fearure converts the voltage used by the thermistor built into the thermal head and displays it as a digital temperature value. Although the value represents temperature, the reading is not in any standard units of temperature. The value decreases as voltage is applied to the head and its temperature rises. The display is in realtime if nothing is currently being printed. During printing the value stored in memory immediately prior to printing is displayed.

SECTION 2
DISASSEMBLY

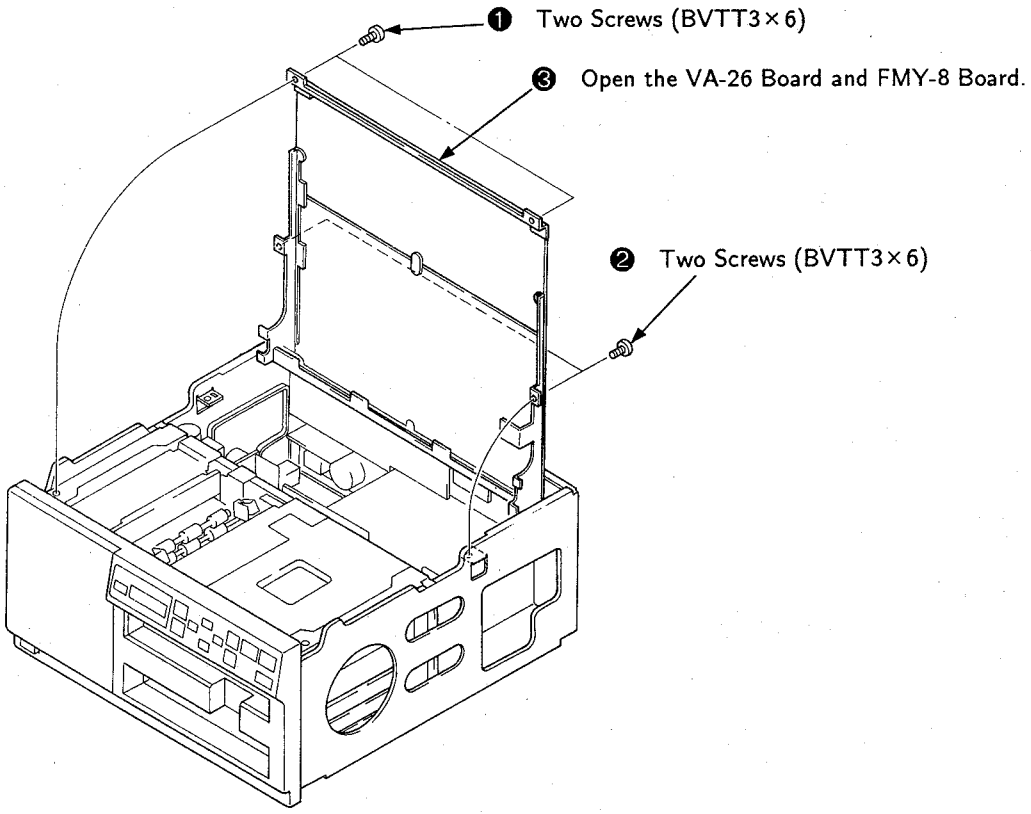
2-1. CABINET REMOVAL



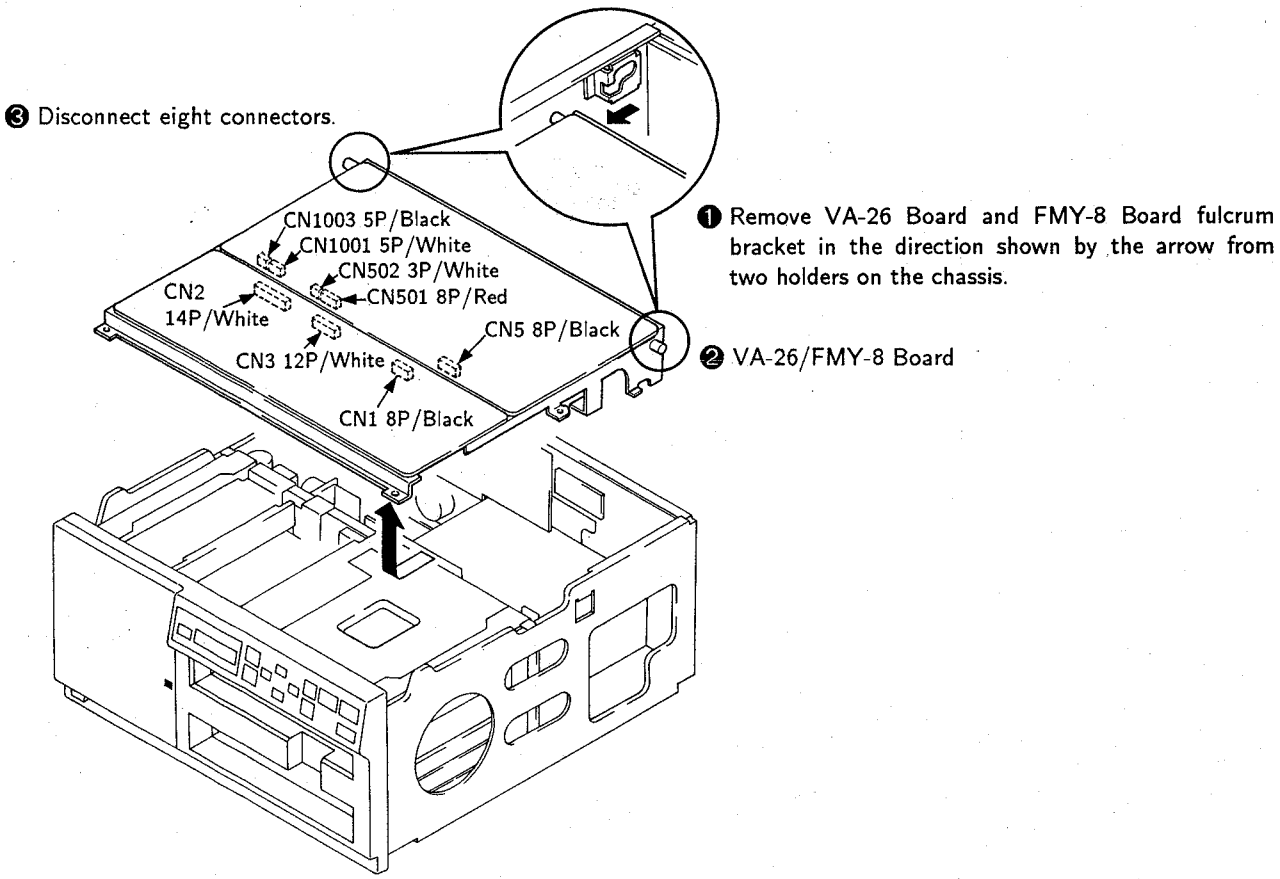
2-2. FRONT PANEL ASSEMBLY REMOVAL



2-3. HOW TO OPEN VA-26 BOARD AND FMY-8 BOARD

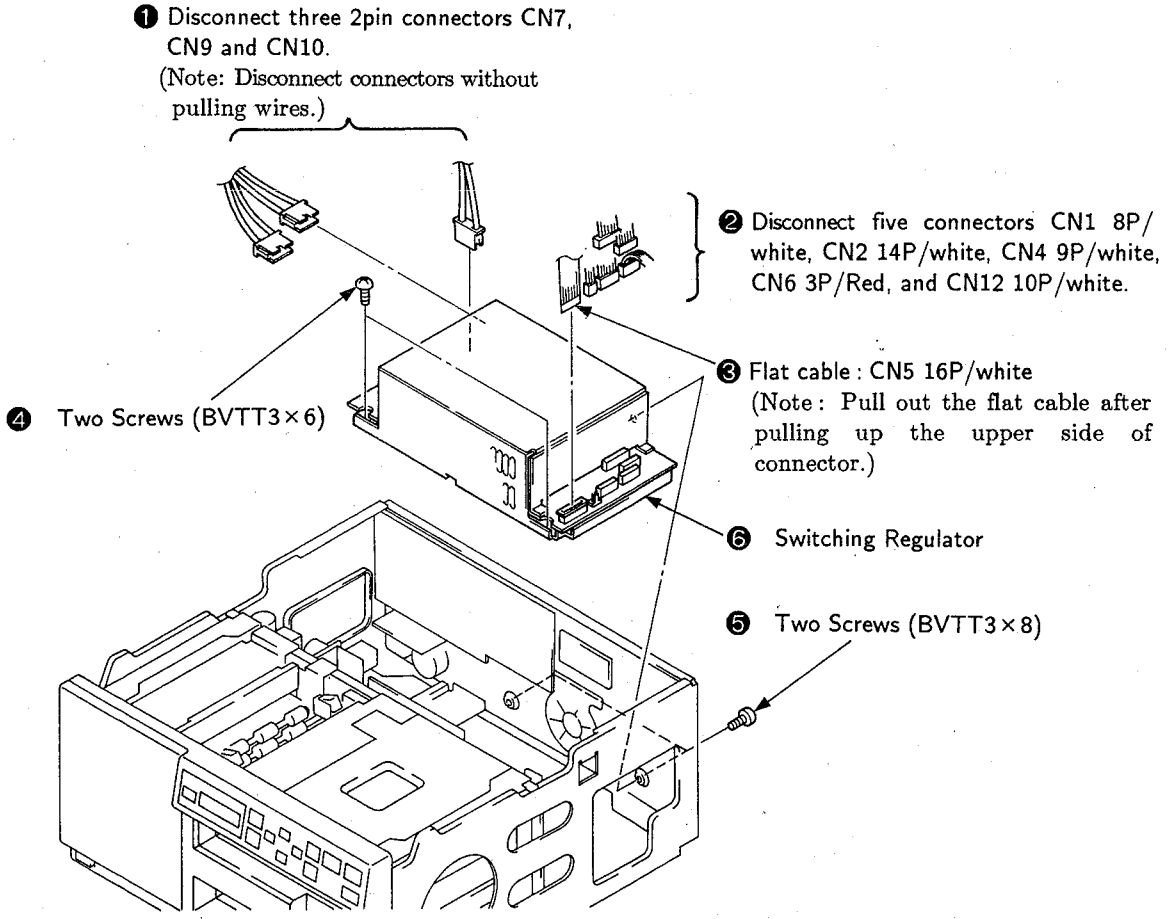


2-4. VA-26 AND FMY-8 BOARD REMOVAL



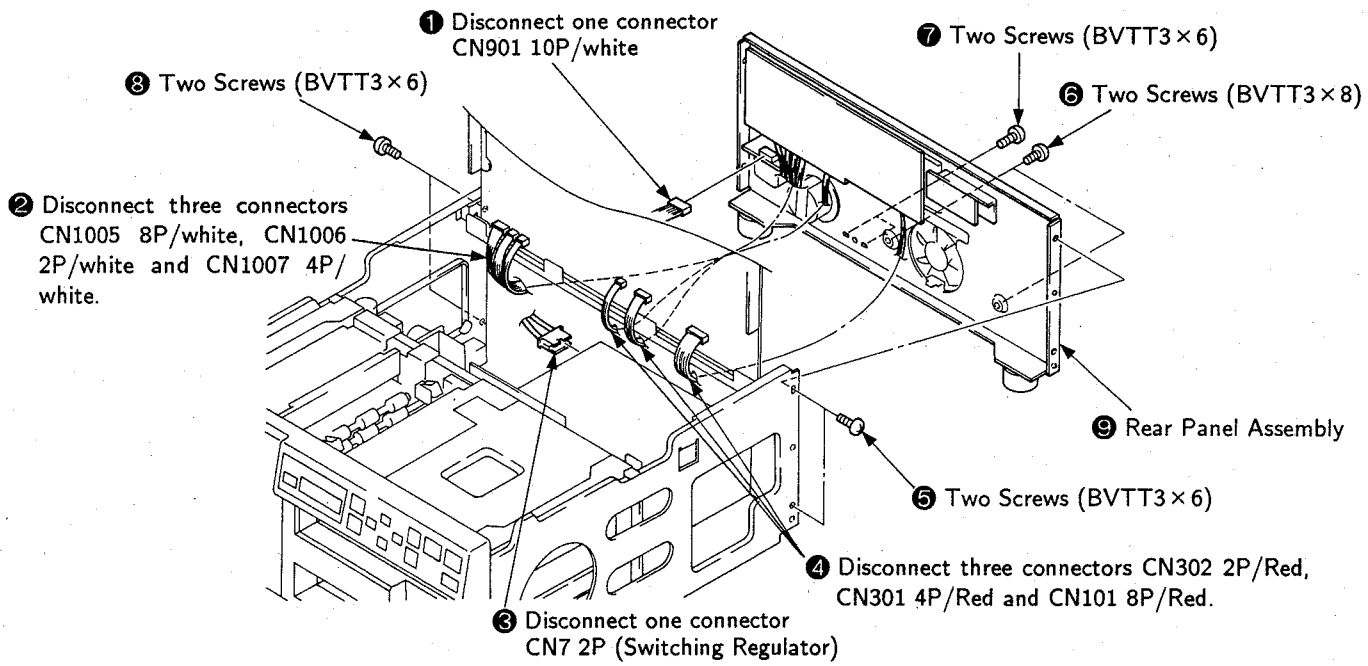
2-5. SWITCHING REGULATOR REMOVAL

Note: Remove switching regulator after VA-26 board and FMY-8 board removal. (See Item 2-4.)

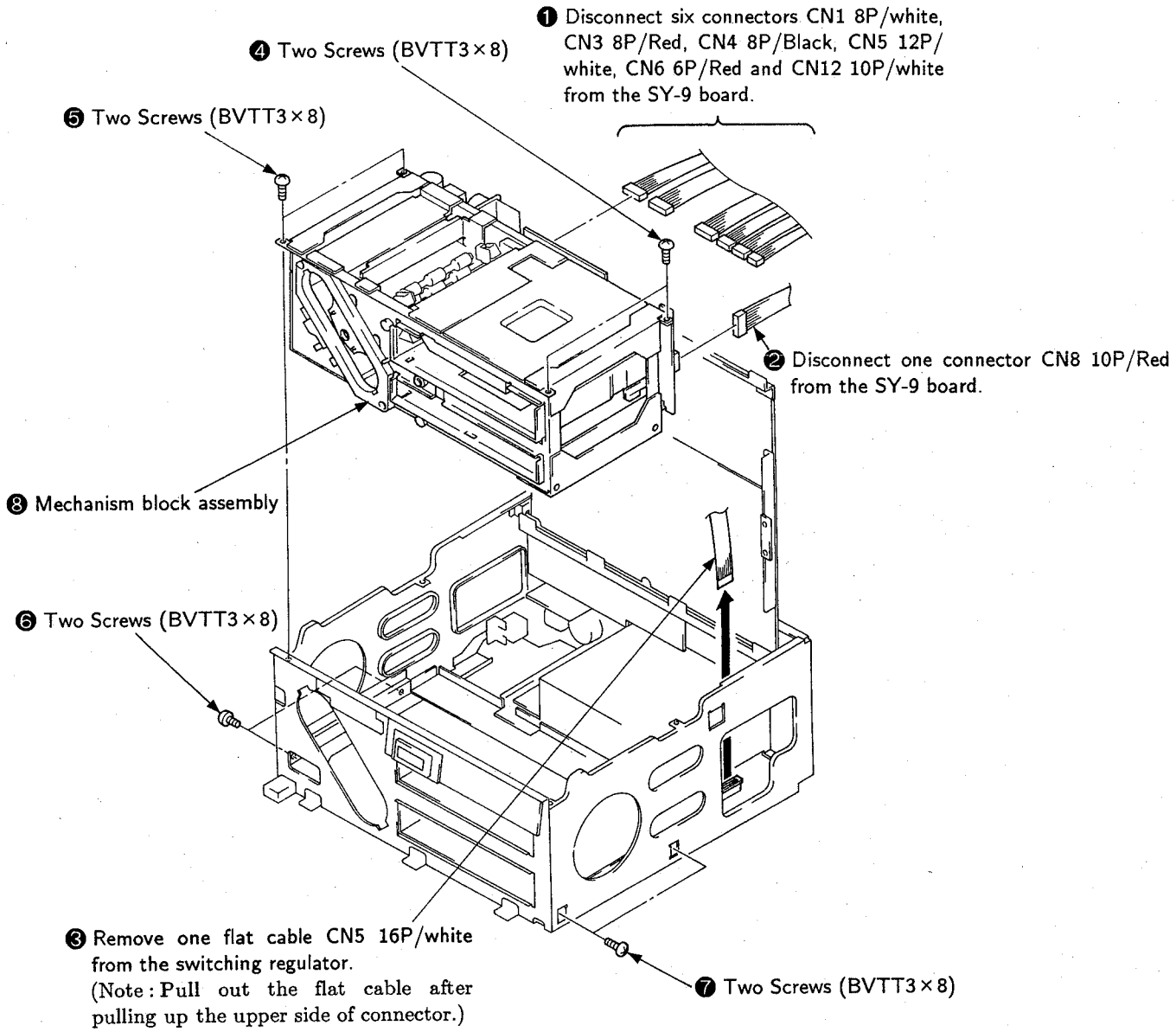


2-6. REAR PANEL ASSEMBLY REMOVAL

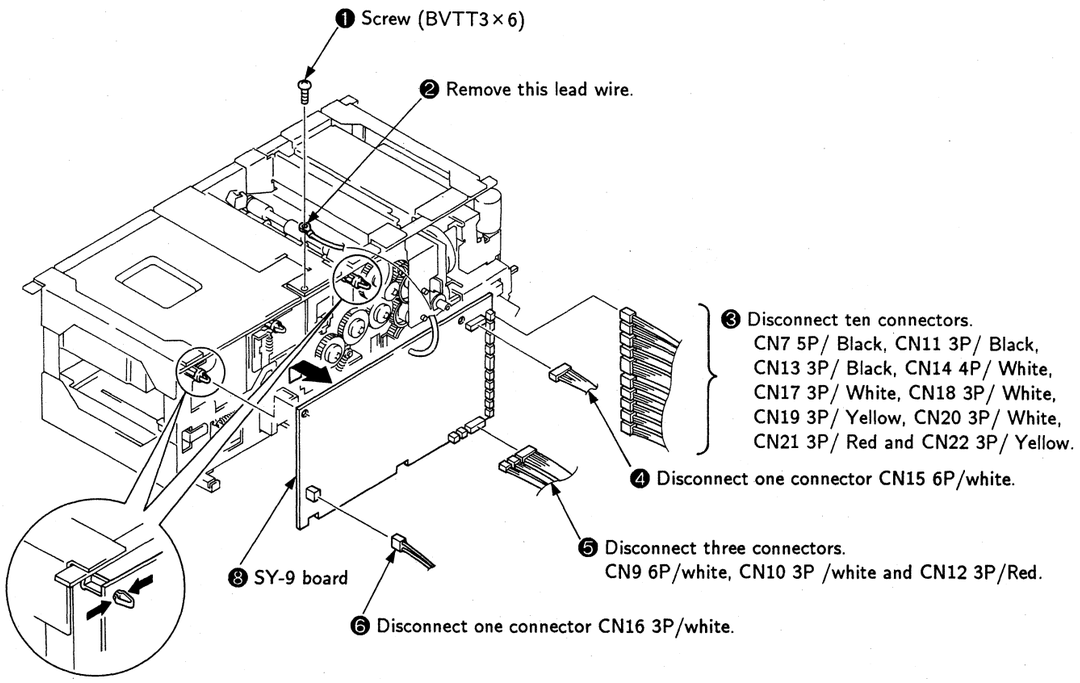
Note: Remove rear panel assembly after opening VA-26/FMY-8 board. (See Item 2-3.)



2-7. MECHANISM BLOCK ASSEMBLY REMOVAL



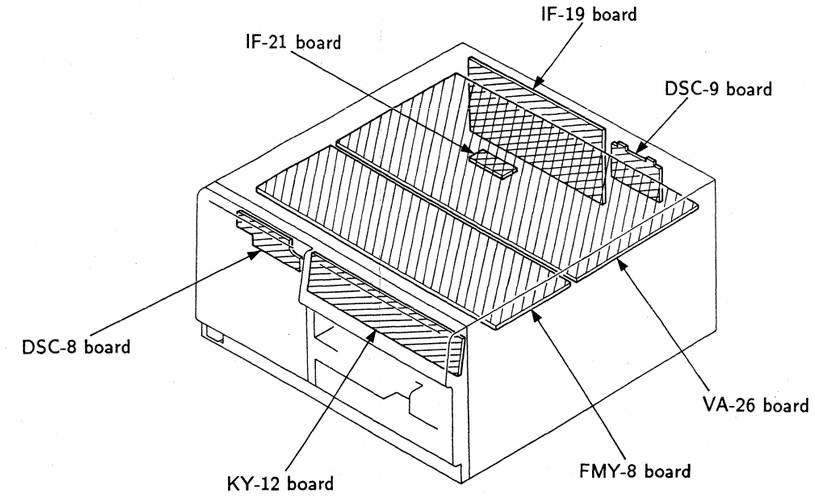
2-8. SY-9 BOARD REMOVAL

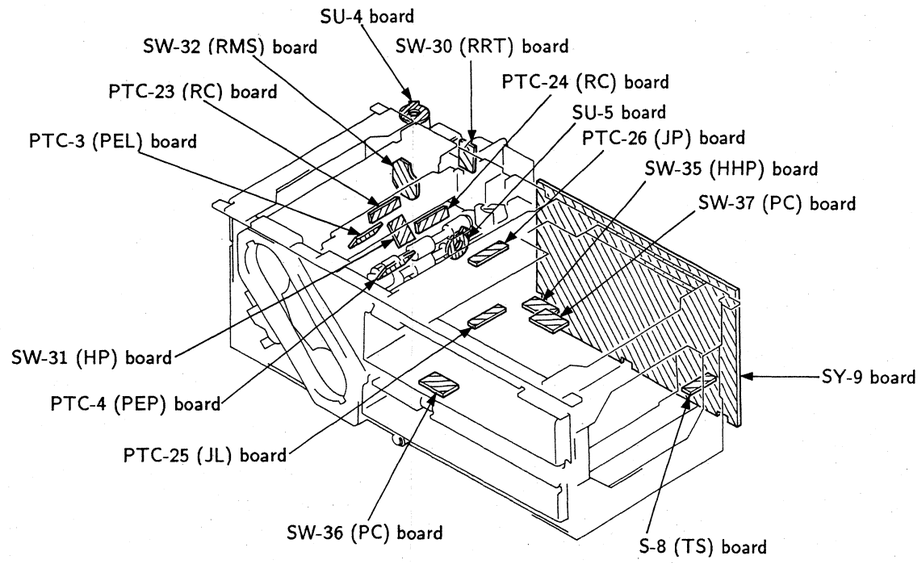


❼ Push two claws and remove the SY-9 board.

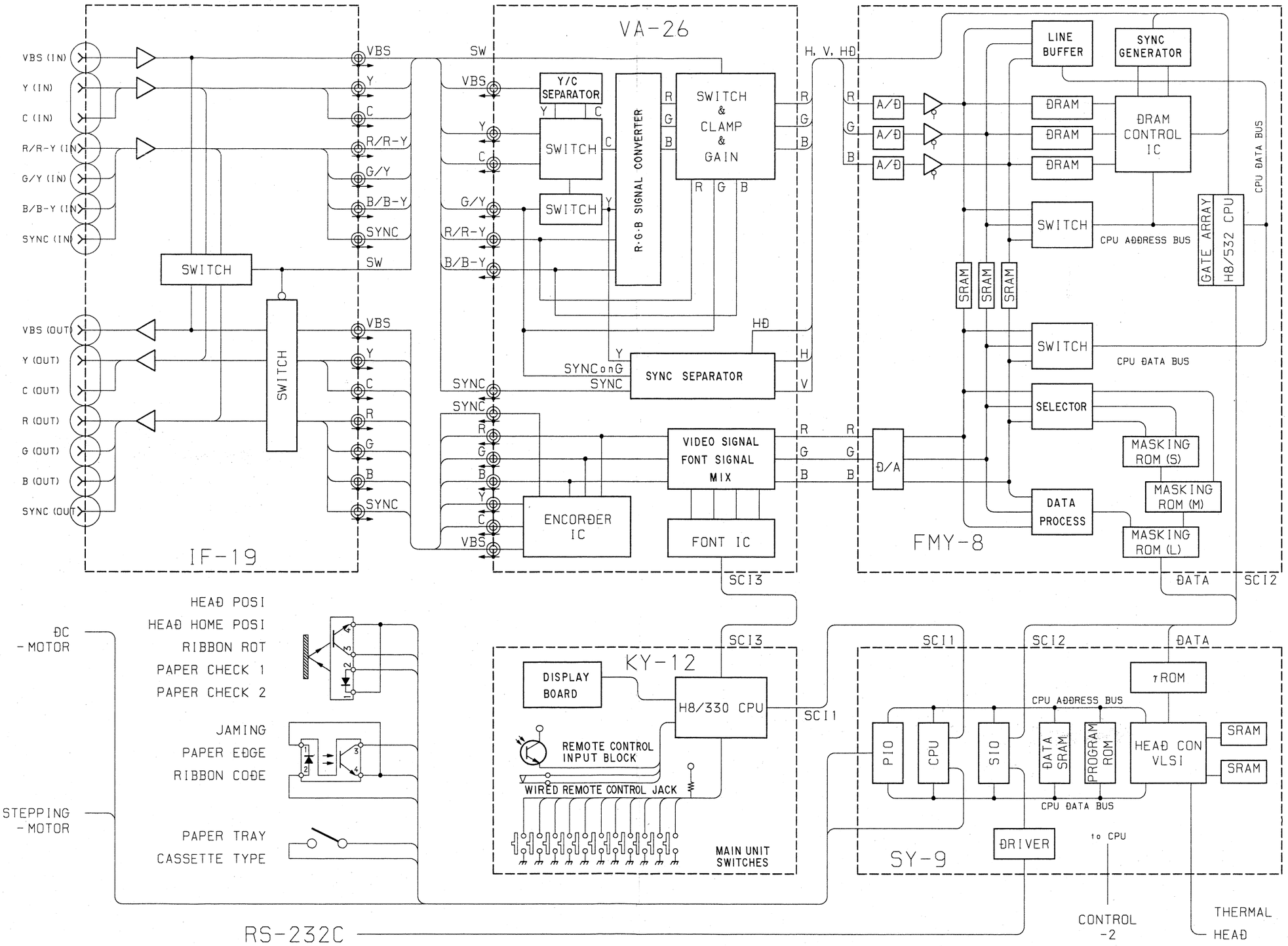
SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION





3-2. BLOCK DIAGRAM



SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

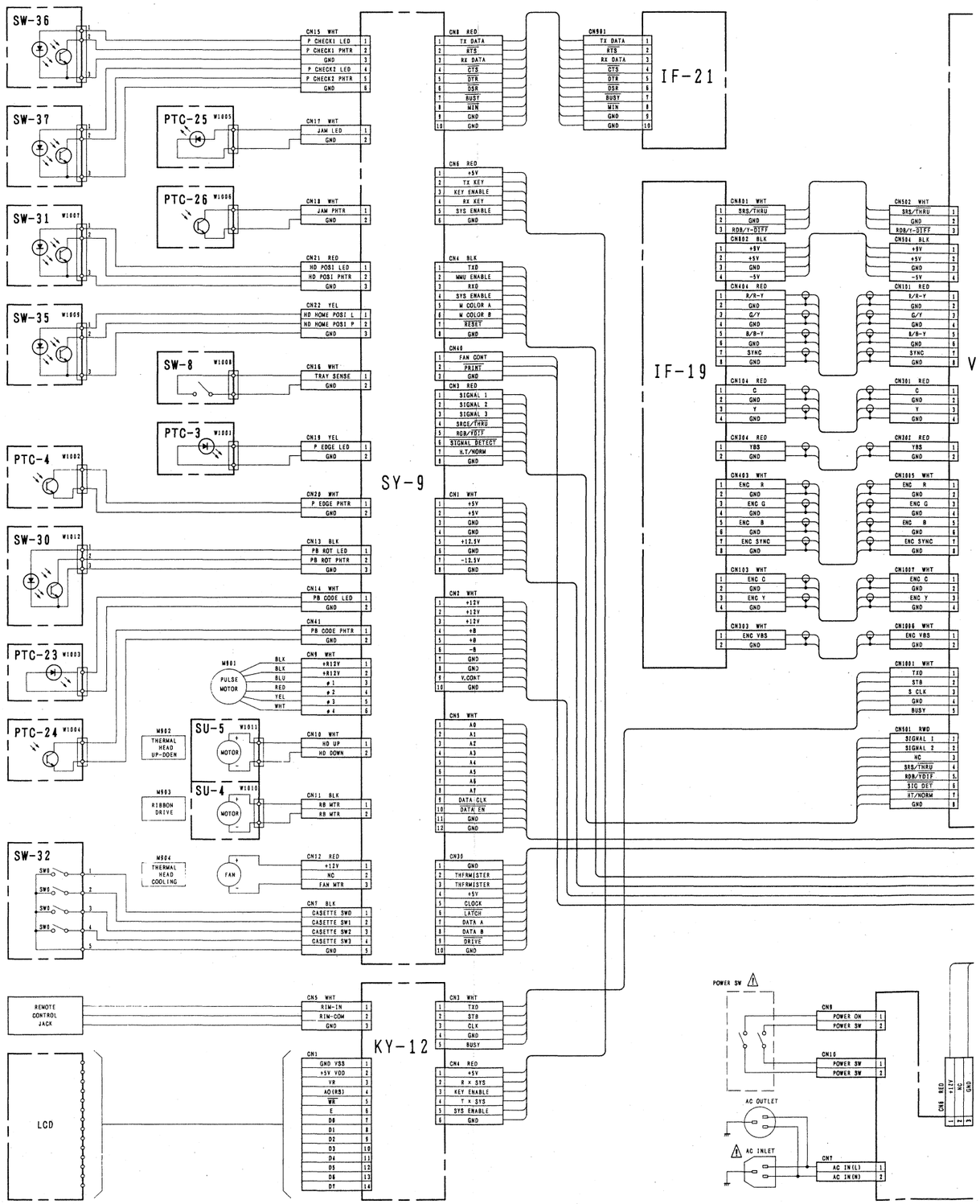
4-1. FRAME SCHEMATIC DIAGRAM

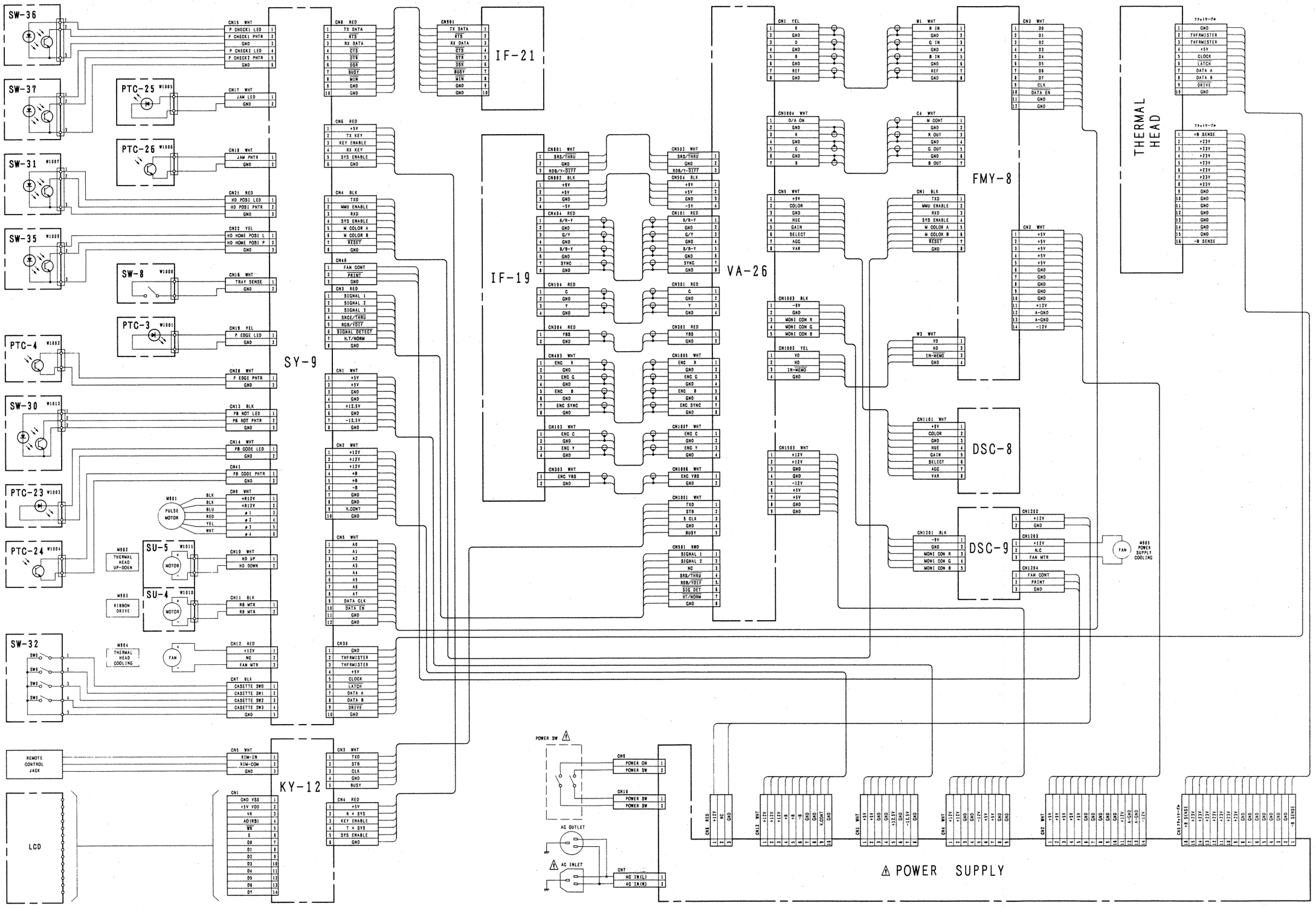
THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

- **For schematic diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/10W unless otherwise noted.
  kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.
- : adjustment for repeair.
- : B+ Line.
- : B- Line.
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal playback.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

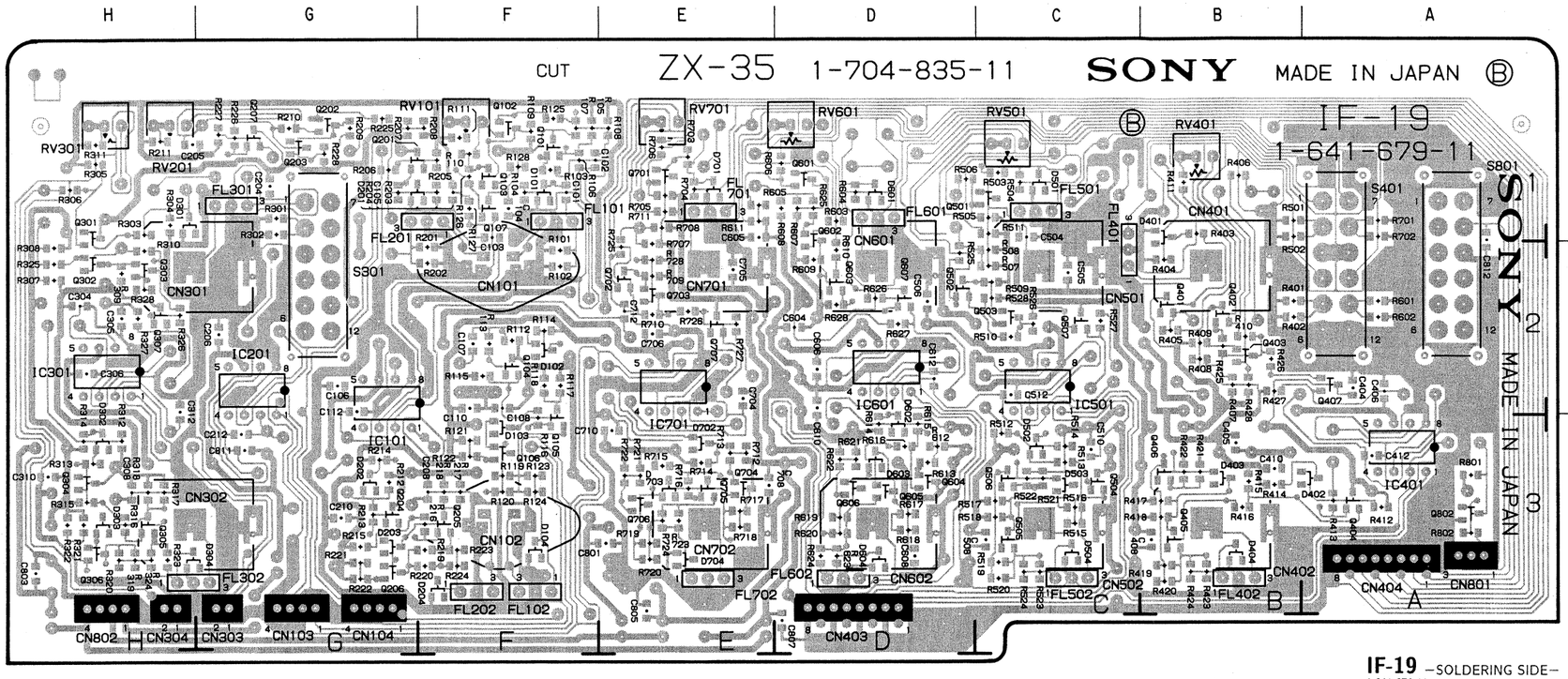
Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

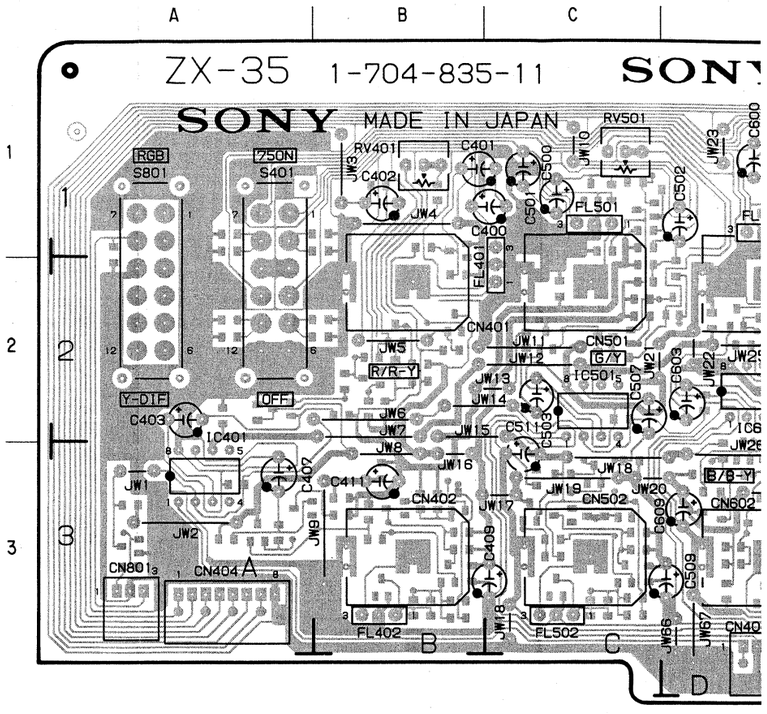



SW-36
SW-37
SW-31
SW-35
SW-8
PTC-3
PTC-4
SW-30
PTC-23
PTC-24
SW-32
PTC-25
PTC-26
SU-5
SU-4
M901 PULSE MOTOR
M902 THERMAL HEAD UP-DOEN
M903 RIBBON DRIVE
M904 THERMAL HEAD COOLING
FAN
SY-9
IF-21
IF-19
VA-26
FMY-8
DSC-8
DSC-9
KY-12
THERMAL HEAD
M905 POWER SUPPLY COOLING
REMOTE CONTROL JACK
LCD
POWER SW
AC OUTLET
AC INLET
⚠ POWER SUPPLY

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

IF-19 (DATA INPUT OUTPUT)

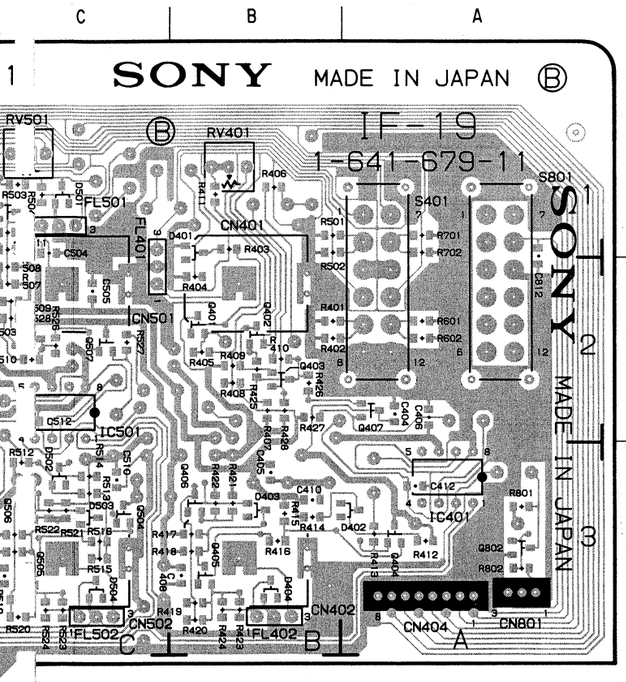




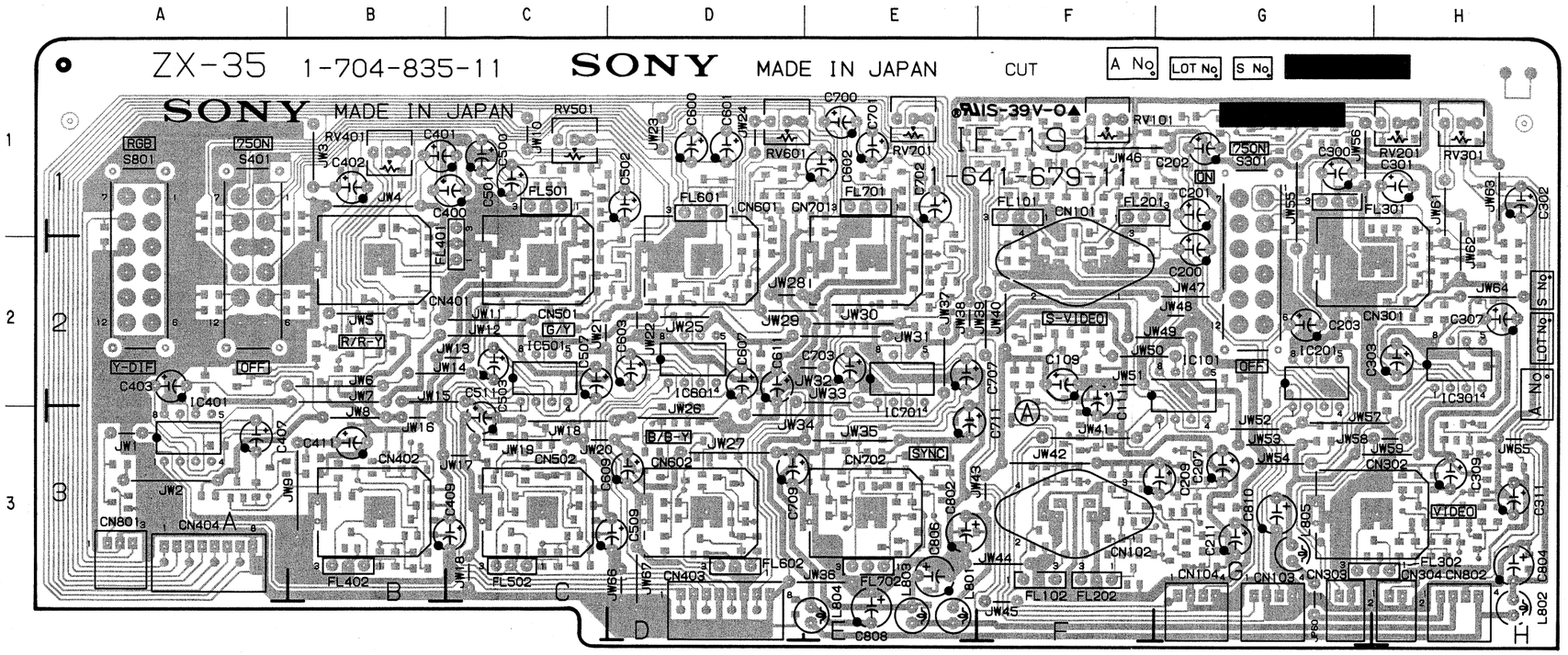
IF-19 –SOLDERING SIDE–
1-641-679-11
UP-5200MD
UP-5250MD

IF-19 Board

CN101	F-1		D501	C-1	S	L801	E-3		Q503	C-2	S			
CN102	F-3		D502	C-3	S	L802	E-3		Q504	C-3	S			
CN103	G-3		D503	C-3	S	L803	E-3		Q505	C-3	S			
CN104	G-3		D504	C-3	S	L804	E-3		Q506	C-3	S			
CN301	G-2		D601	D-1	S	L805	G-3		Q507	C-2	S			
CN302	H-3		D602	D-2	S				Q601	D-1	S			
CN303	G-3		D603	D-3	S	Q101	F-1	S	Q602	D-1	S			
CN304	H-3		D604	D-3	S	Q102	F-1	S	Q603	D-2	S			
CN401	B-2		D701	E-1	S	Q103	F-1	S	Q604	D-3	S			
CN402	B-3		D702	E-3	S	Q104	F-2	S	Q605	D-3	S			
CN403	D-3		D703	E-3	S	Q105	F-3	S	Q606	D-3	S			
CN404	A-3		D704	E-3	S	Q106	F-3	S	Q607	D-2	S			
CN501	C-2					Q107	F-1	S	Q701	E-1	S			
CN502	C-3		FL101	F-1		Q201	G-1	S	Q702	E-2	S			
CN601	D-1		FL102	F-3		Q202	G-1	S	Q703	E-2	S			
CN602	D-3		FL201	F-1		Q203	G-1	S	Q704	E-3	S			
CN701	E-1		FL202	F-3		Q204	G-3	S	Q705	E-3	S			
CN702	E-3		FL301	G-1		Q205	F-3	S	Q706	E-3	S			
CN801	A-3					Q206	G-3	S	Q707	E-2	S			
CN802	H-3		FL302	H-3		Q207	G-1	S	Q802	A-3	S			
			FL401	B-2		Q301	H-1	S						
D101	F-1	S	FL402	B-3		Q302	H-2	S	RV101	F-1				
D102	F-2	S	FL501	C-1		Q303	H-2	S	RV201	H-1				
D103	F-3	S	FL502	C-3		Q304	H-3	S	RV301	H-1				
D104	F-3	S	FL601	D-1		Q305	H-3	S	RV401	B-1				
D201	G-1	S	FL602	D-3		Q306	H-3	S	RV501	C-1				
D202	G-3	S	FL701	E-1		Q307	H-2	S	RV601	D-1				
D203	G-3	S	FL702	E-3		Q401	B-2	S	RV701	E-1				
D204	F-3	S				Q402	B-2	S						
D301	H-1	S	IC101	G-2		Q403	B-2	S	S301	G-1				
D302	H-2	S	IC201	G-2		Q404	A-3	S	S401	A-1				
D303	H-3	S	IC301	H-2		Q405	B-3	S	S801	A-1				
D304	G-3	S	IC401	A-2		Q406	B-3	S						
D401	B-1	S	IC501	C-2		Q407	A-2	S						
D402	A-3	S	IC601	D-2		Q501	D-1	S						
D403	B-3	S	IC701	E-3		Q502	D-2	S						
D404	B-3	S												

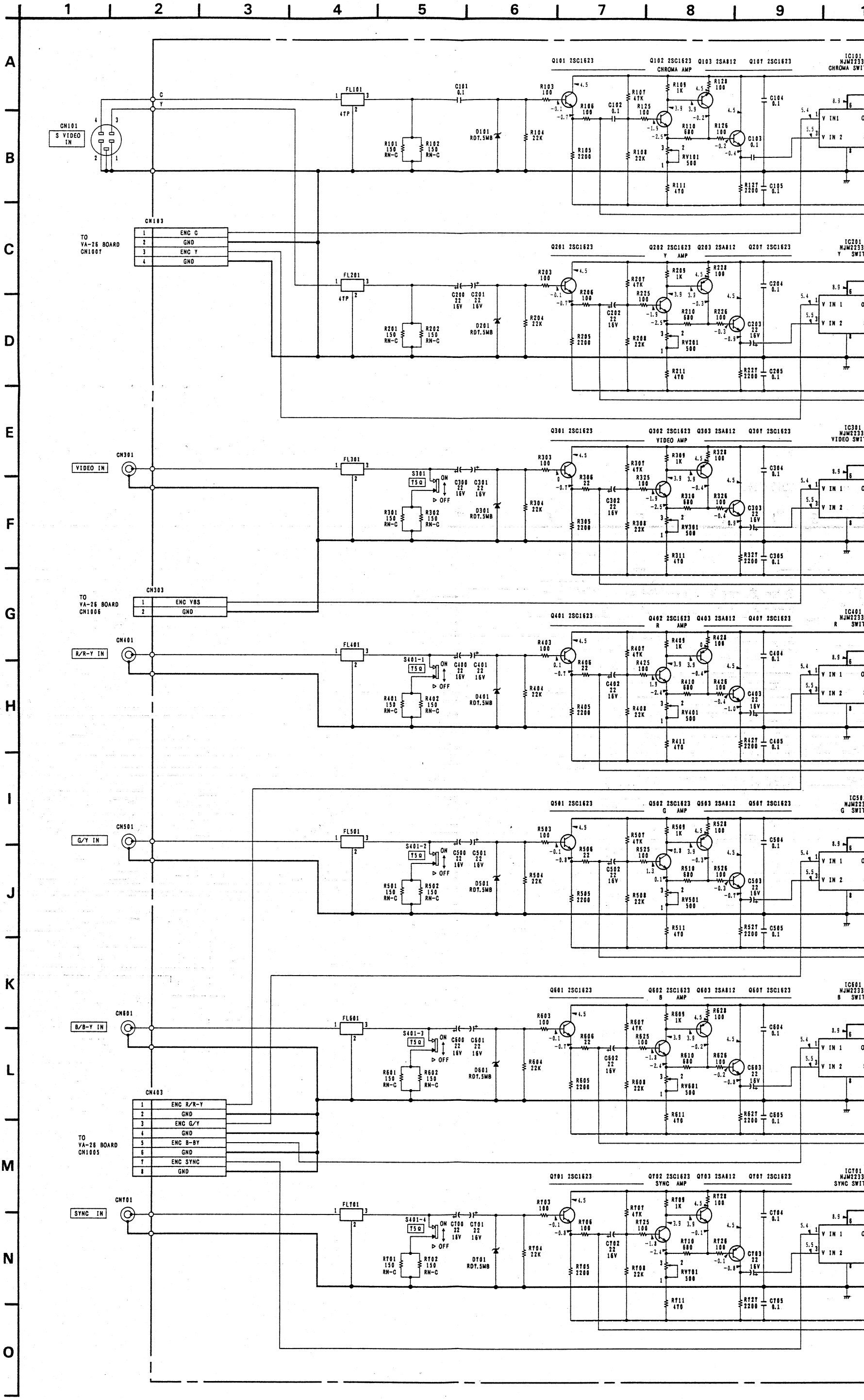


IF-19 –SOLDERING SIDE–
1-641-679-11
UP-5200MD
UP-5250MD



IF-19 –COMPONENT SIDE–
1-641-679-11
UP-5200MD
UP-5250MD

IF-19 (DATA INPUT OUTPUT)



IC101 NJM2233 CHROMA SWITCH
Q104 2SC1623 Q105 2SC1623 Q106 2SC1623 CHROMA AMP
IC201 NJM2233 Y SWITCH
Q204 2SC1623 Q205 2SC1623 Q206 2SC1623 Y AMP
IC301 NJM2233 VIDEO SWITCH
Q304 2SC1623 Q305 2SC1623 Q306 2SC1623 VIDEO AMP
IC401 NJM2233 R SWITCH
Q404 2SC1623 Q405 2SC1623 Q406 2SC1623 R AMP
IC501 NJM2233 G SWITCH
Q504 2SC1623 Q505 2SC1623 Q506 2SC1623 G AMP
IC601 NJM2233 B SWITCH
Q604 2SC1623 Q605 2SC1623 Q606 2SC1623 B AMP
IC701 NJM2233 SYNC SWITCH
Q704 2SC1623 Q705 2SC1623 Q706 2SC1623 SYNC AMP
Q802 2SC1623 VIDEO AMP

FL102 FL202 FL302 FL402 FL502 FL602 FL702 47P

CN104
C	1	TO VA-26 BOARD CN301
GND	2	
Y	3	
GND	4	

CN304
VBS	1	TO VA-26 BOARD CN302
GND	2	

CN404
R/R-Y	1	TO VA-26 BOARD CN101
GND	2	
G/G	3	
GND	4	
B/B-Y	5	
GND	6	
SYNC	7	
GND	8	

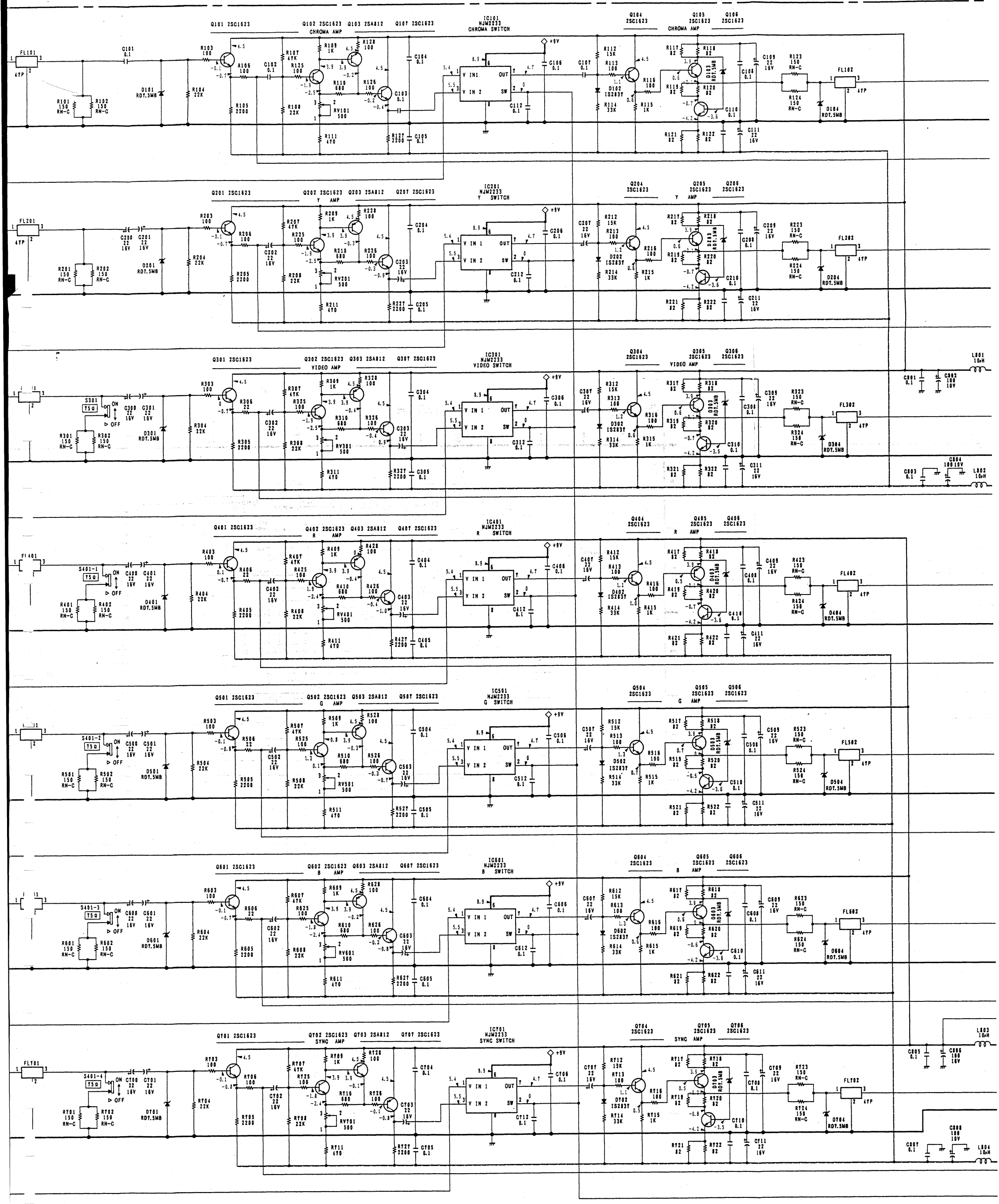
CN802
+9V	1	TO VA-26 BOARD CN504
+5V	2	
GND	3	
-5V	4	

CN801
SRS/THRU	1	TO VA-26 BOARD CN502
GND	2	
RGB/Y-DIFF	3	

CN302 VIDEO OUT
CN402 R OUT
CN502 G OUT
CN602 B OUT
CN702 SYNC OUT

1Vp-p (H)

S801 RGB R-Y/Y/B-Y


Q101 2SC1623
Q102 2SC1623
CHROMA AMP
Q103 2SA812
Q107 2SC1623
IC101
NJM2233
CHROMA SWITCH
Q104 2SC1623
Q105 2SC1623
CHROMA AMP
Q106 2SC1623
Q201 2SC1623
Q202 2SC1623
Y AMP
Q203 2SA812
Q207 2SC1623
IC201
NJM2233
Y SWITCH
Q204 2SC1623
Q205 2SC1623
Y AMP
Q206 2SC1623
Q301 2SC1623
Q302 2SC1623
VIDEO AMP
Q303 2SA812
Q307 2SC1623
IC301
NJM2233
VIDEO SWITCH
Q304 2SC1623
Q305 2SC1623
VIDEO AMP
Q306 2SC1623
Q401 2SC1623
Q402 2SC1623
R AMP
Q403 2SA812
Q407 2SC1623
IC401
NJM2233
R SWITCH
Q404 2SC1623
Q405 2SC1623
R AMP
Q406 2SC1623
Q501 2SC1623
Q502 2SC1623
G AMP
Q503 2SA812
Q507 2SC1623
IC501
NJM2233
G SWITCH
Q504 2SC1623
Q505 2SC1623
G AMP
Q506 2SC1623
Q601 2SC1623
Q602 2SC1623
B AMP
Q603 2SA812
Q607 2SC1623
IC601
NJM2233
B SWITCH
Q604 2SC1623
Q605 2SC1623
B AMP
Q606 2SC1623
Q701 2SC1623
Q702 2SC1623
SYNC AMP
Q703 2SA812
Q707 2SC1623
IC701
NJM2233
SYNC SWITCH
Q704 2SC1623
Q705 2SC1623
SYNC AMP
Q706 2SC1623
+9V
FL101
FL102
FL201
FL202
FL301
FL302
FL401
FL402
FL501
FL502
FL601
FL602
FL701
FL702
S301
S401-1
S401-2
S401-3
S401-4
ON
OFF
75Ω
47P
D101 RD7.5MB
D102 IS2837
D103 RD7.5MB
D104 RD7.5MB
D201 RD7.5MB
D202 IS2837
D203 RD7.5MB
D204 RD7.5MB
D301 RD7.5MB
D302 IS2837
D303 RD7.5MB
D304 RD7.5MB
D401 RD7.5MB
D402 IS2837
D403 RD7.5MB
D404 RD7.5MB
D501 RD7.5MB
D502 IS2837
D503 RD7.5MB
D504 RD7.5MB
D601 RD7.5MB
D602 IS2837
D603 RD7.5MB
D604 RD7.5MB
D701 RD7.5MB
D702 IS2837
D703 RD7.5MB
D704 RD7.5MB
RV101 500
RV201 500
RV301 500
RV401 500
RV501 500
RV601 500
L801 10μH
L802 10μH
L803 10μH
L804 10μH
C801 0.1
C802 100 10V
C803 0.1
C804 100 10V
C805 0.1
C806 100 16V
C807 0.1
C808 100 16V

CHROMA AMP
Q104 2SC1623 Q105 2SC1623 Q106 2SC1623
D102 IS2837
D103 RD7.5MB
D104 RD7.5MB
FL102
CN102 S VIDEO OUT
CN104
C GND Y GND
TO VA-26 BOARD CN301

Y AMP
Q204 2SC1623 Q205 2SC1623 Q206 2SC1623
D202 IS2837
D203 RD7.5MB
D204 RD7.5MB
FL202

VIDEO AMP
Q304 2SC1623 Q305 2SC1623 Q306 2SC1623
D302 IS2837
D303 RD7.5MB
D304 RD7.5MB
FL302
L801 10uH +5V
L802 10uH -5V
CN302 VIDEO OUT
CN304
VBS GND
TO VA-26 BOARD CN302

1Vp-p (H)

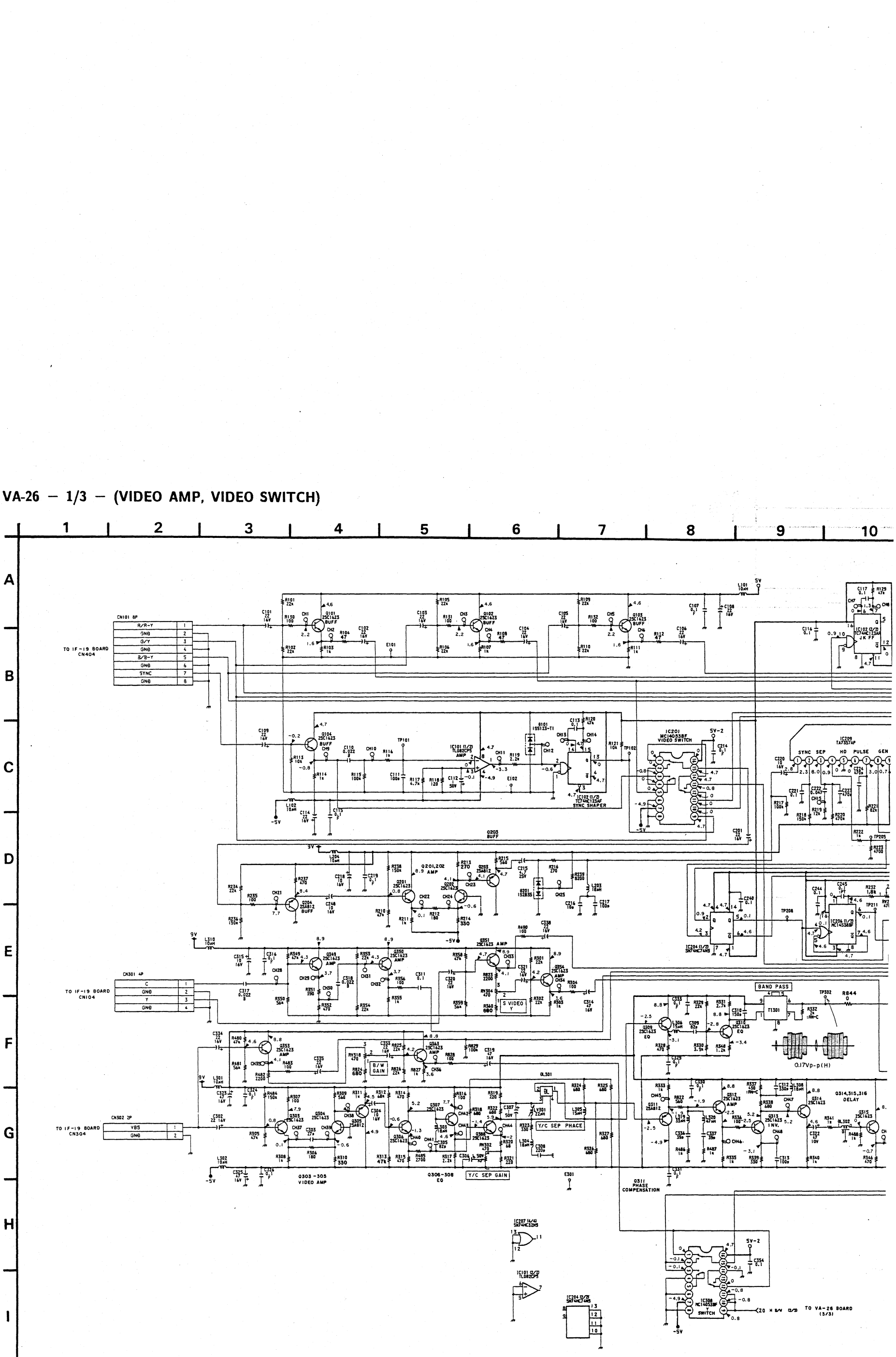
R AMP
Q404 2SC1623 Q405 2SC1623 Q406 2SC1623
D402 IS2837
D403 RD7.5MB
D404 RD7.5MB
FL402
CN402 R OUT

G AMP
Q504 2SC1623 Q505 2SC1623 Q506 2SC1623
D502 IS2837
D503 RD7.5MB
D504 RD7.5MB
FL502
CN404
R/R-Y GND G/O GND B/B-Y GND SYNC GND
TO VA-26 BOARD CN101
CN502 G OUT

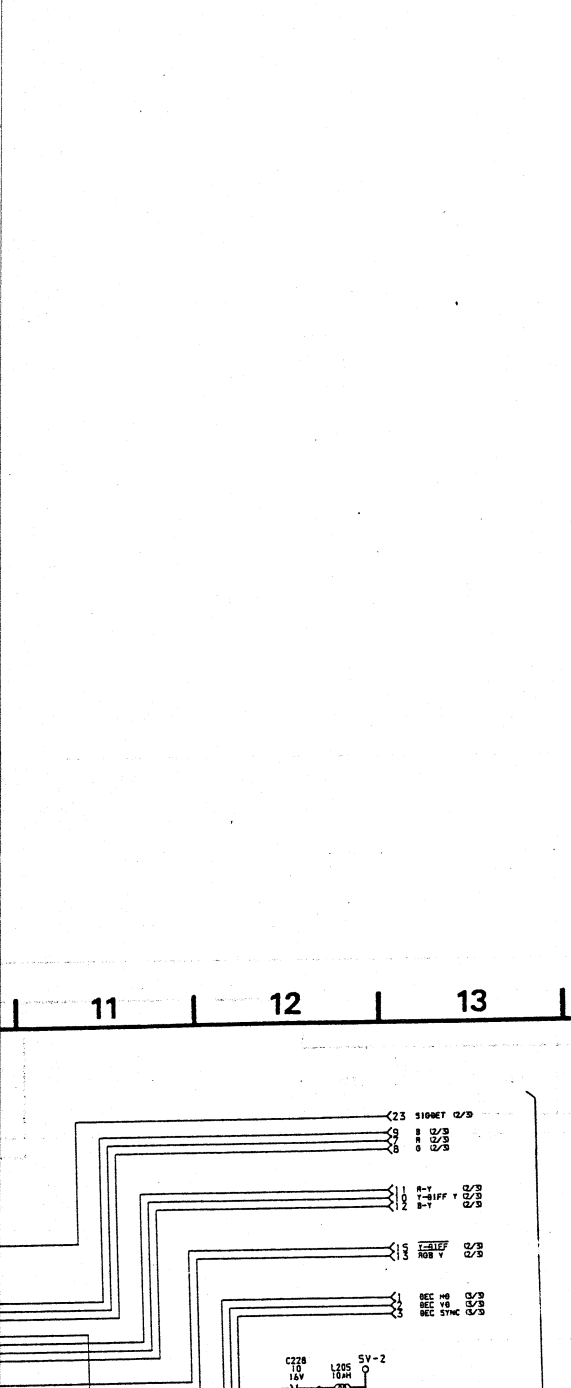
B AMP
Q604 2SC1623 Q605 2SC1623 Q606 2SC1623
D602 IS2837
D603 RD7.5MB
D604 RD7.5MB
FL602
+9V L805 10uH
CN802
+9V +5V GND -5V
TO VA-26 BOARD CN504
CN602 B OUT

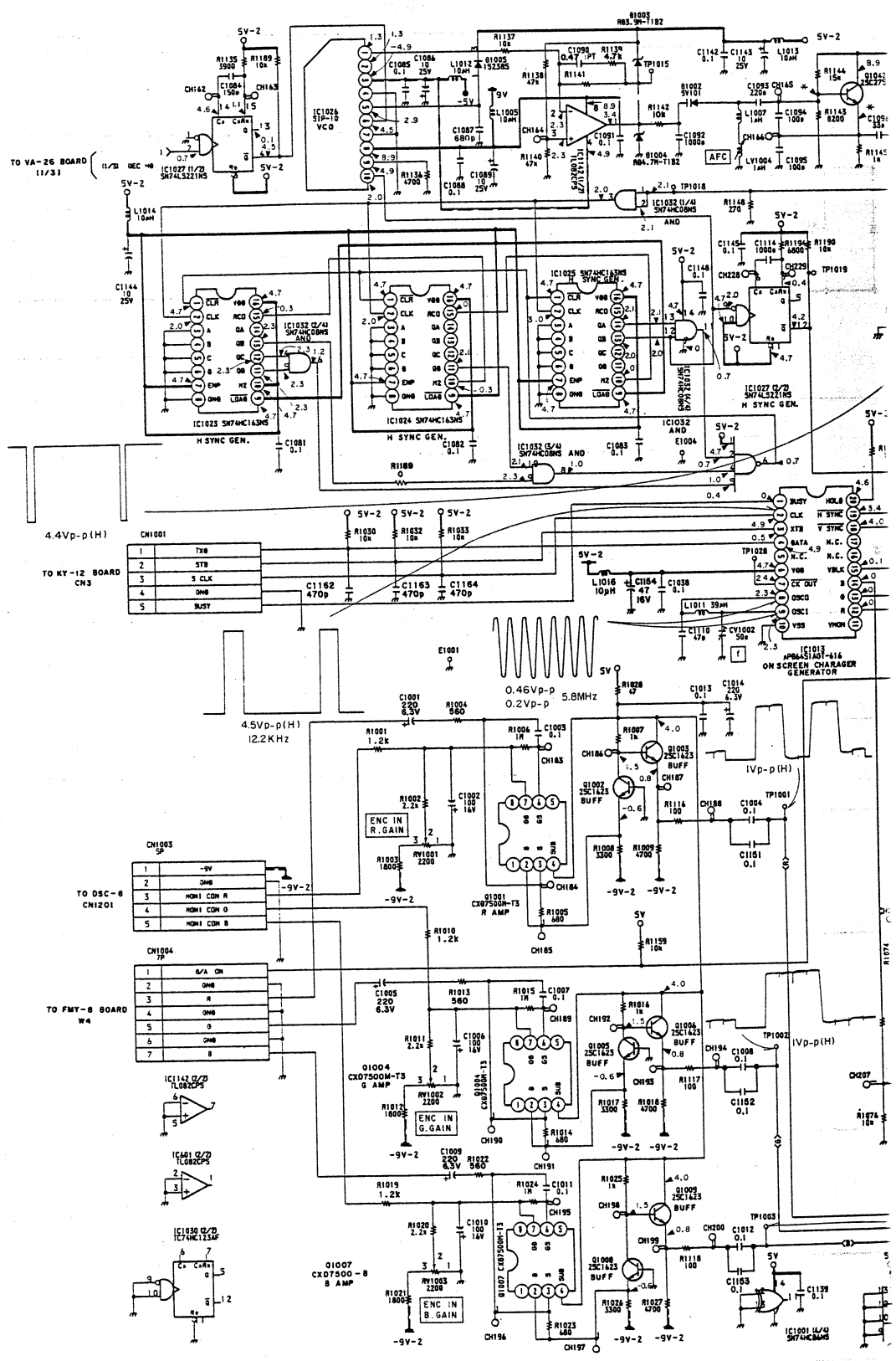
SYNC AMP
Q704 2SC1623 Q705 2SC1623 Q706 2SC1623
D702 IS2837
D703 RD7.5MB
D704 RD7.5MB
FL702
L803 10uH +5V
L804 10uH -5V
R801 1K
Q802 2SC1623 VIDEO AMP
R802 10K
CN801
SRS/THRU GND RGB/Y-DIFF
TO VA-26 BOARD CN502
CN702 SYNC OUT
S801 RGB
R-Y/Y/B-Y

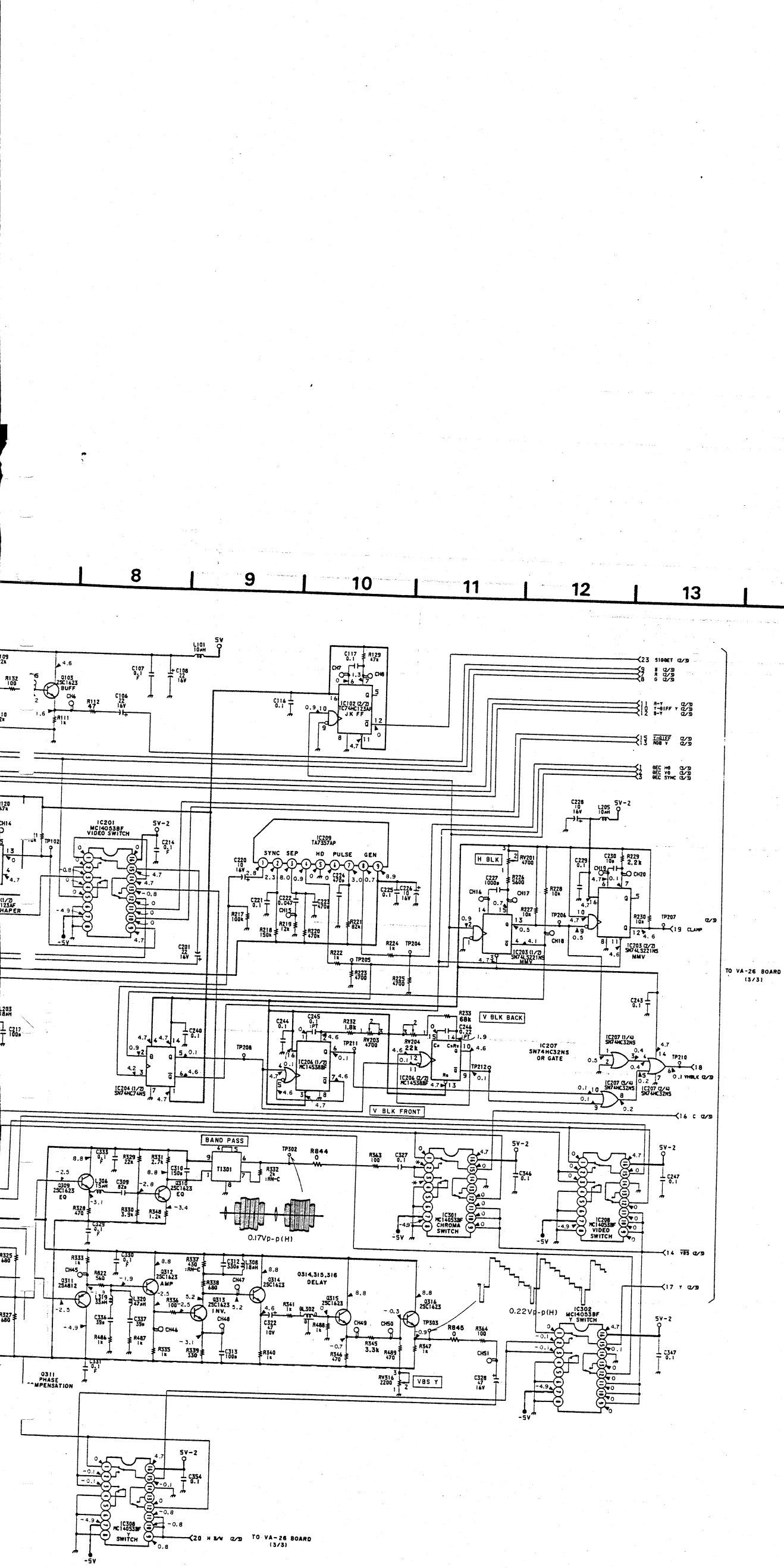
VA-26 — 1/3 — (VIDEO AMP, VIDEO SWITCH)

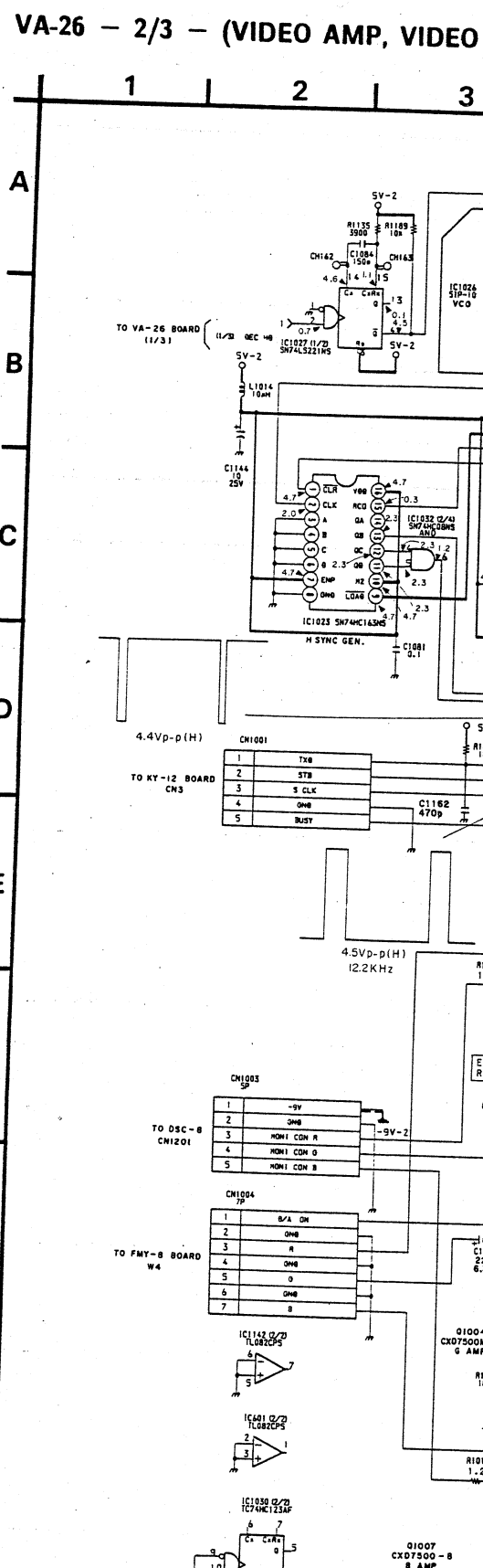


VIDEO	VIDEO
VA-26	VA-26

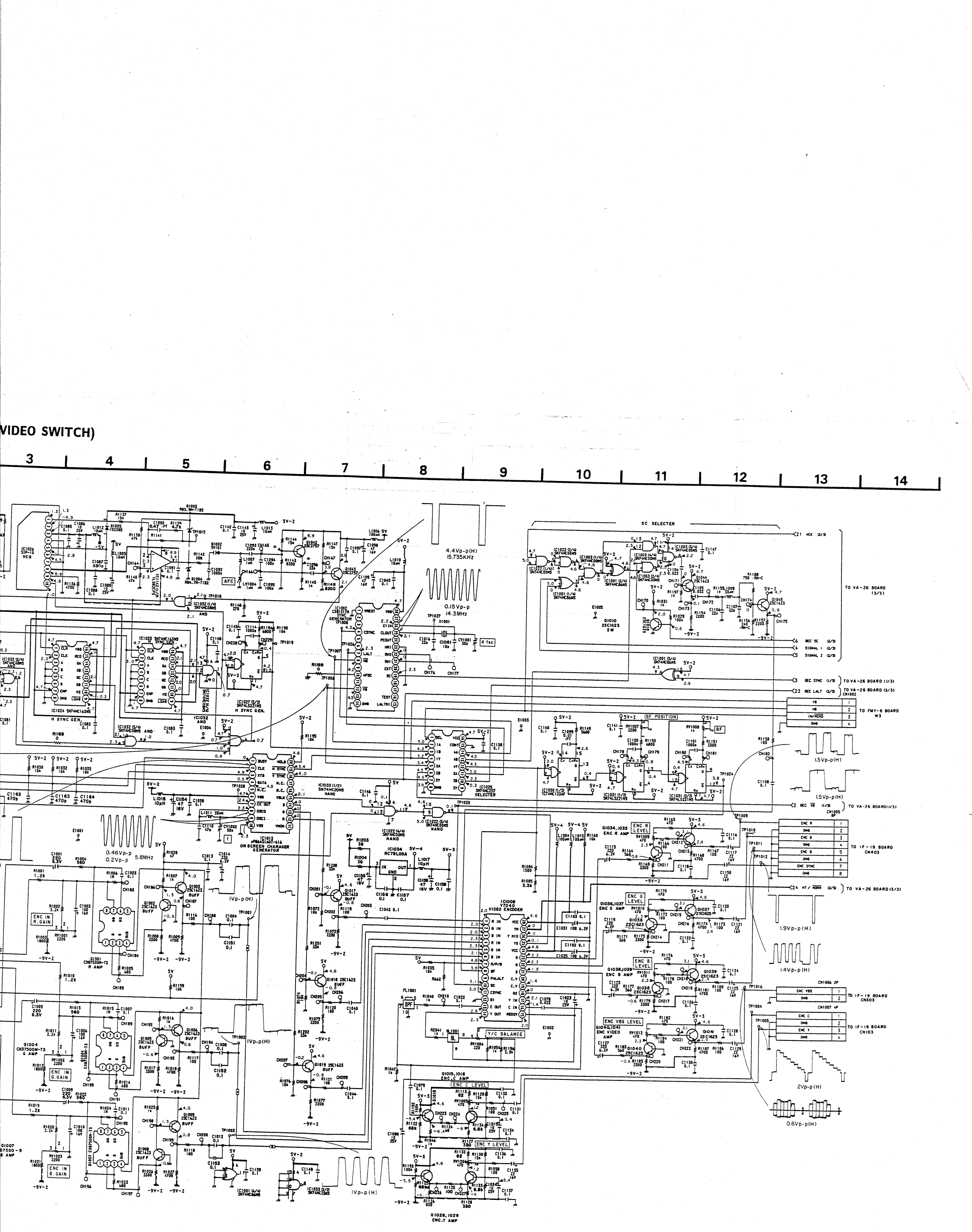

11
12
13
14
23 SIOOET Q/3
9 B Q/3
7 R Q/3
8 G Q/3
1 R-Y
10 Y-DIFF Y
2 B-Y
5 Y-DIFF
3 ROB Y
1 DEC MB
2 DEC VB
3 DEC SYNC
C228 10 16V
L205 10uH
5V-2
H BLK
RV201 470Ω
C227 1000p
R226 560Ω
R228 10k
R227 10k
C229 0.1
C230 10p
R229 2.2k
CH13
CH20
CH16
CH17
CH18
TP206
R230 10k
TP207
19 CLAMP
IC203 (1/2) SN74LS221NS MMV
R225 470Ω
TP204
C226 10 16V
C243 0.1
R233 68k
V BLK BACK
C244 0.22 PT
RV204 22k
IC206 (2/2) MC14538BF
TP212
IC207 SN74HC32NS OR GATE
IC207 (1/4) SN74HC32NS
IC207 (2/4) SN74HC32NS
IC207 (3/4) SN74HC32NS
TP210
18 Q/3 Y BLK
16 C Q/3
BLK FRONT
C327 0.1
C346 0.1
C247 0.1
IC301 MC14053BF CHROMA SWITCH
IC208 MC14053BF VIDEO SWITCH
14 VBS Q/3
17 Y Q/3
0.22Vp-p(H)
IC302 MC14053BF Y SWITCH
C347 0.1
Q316 2SC1623
TP303
R845 0
R364 100
R347 1k
R489 470
RV516 2200
VBS Y
C326 47 16V
CH50
CH51
-5V
TO VA-26 BOARD (3/3)


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
TO VA-26 BOARD (1/3)
IC1026 STP-10 VCO
IC1027 (1/2) SN74LS221NS
L1014 10uH
IC1032 (1/4) SN74HC08NS AND
IC1025 SN74HC163NS H SYNC GEN.
IC1023 SN74HC163NS
IC1024 SN74HC163NS
H SYNC GEN.
IC1032 (2/4) SN74HC08NS AND
IC1032 (3/4) SN74HC08NS AND
IC1032 AND
IC1027 (2/2) SN74LS221NS H SYNC GEN.
4.4Vp-p(H)
CN1001
TO KY-12 BOARD CN3
Txd
STB
S CLK
DMB
BUSY
C1162 470p
C1163 470p
C1164 470p
L1016 10μH
IC1013 μPD6451A07-616 ON SCREEN CHARAGER GENERATOR
0.46Vp-p
0.2Vp-p
5.8MHz
4.5Vp-p(H)
12.2KHz
IVp-p(H)
AFC
ENC IN R.GAIN
ENC IN G.GAIN
ENC IN B.GAIN
CN1003
TO OSC-6 CN1201
-9V
MONI CON R
MONI CON G
MONI CON B
CN1004
TO FMY-6 BOARD W4
R/A CN
Q1004 CX07500M-T3 G AMP
Q1007 CXD7300-8 B AMP
IC1142 (2/2) TL082CPS
IC601 (2/2) TL082CPS
IC1030 (2/2) TC74HC123AF
Q1001 CX07500M-T3 R AMP
Q1002 2SC1623 BUFF
Q1003 2SC1623 BUFF
Q1005 2SC1623 BUFF
Q1006 2SC1623 BUFF
Q1008 2SC1623 BUFF
Q1009 2SC1623 BUFF
TP1001
TP1002
TP1003
TP1028
TP1018
TP1019
CH207


8
9
10
11
12
13
14
5V
IC201 MC14053BF VIDEO SWITCH
IC209 TA7357AP SYNC SEP HD PULSE GEN
H BLK
V BLK BACK
V BLK FRONT
IC207 SN74HC32NS OR GATE
IC204 (1/2) SN74HC74NS
IC203 (1/2) SN74LS221NS MMV
IC206 (1/2) MC14538BF
IC207 (1/4) SN74HC32NS
TO VA-26 BOARD (1/3)
BAND PASS
T1301
0.17Vp-p(H)
IC301 MC14053BF CHROMA SWITCH
IC208 MC14053BF VIDEO SWITCH
0314,315,316 DELAY
Q312 2SC1623 AMP
Q313 2SC1623 INV.
Q314 2SC1623
Q315 2SC1623
Q316 2SC1623
0.22Vp-p(H)
IC302 MC14053BF Y SWITCH
Q311 PHASE COMPENSATION
IC308 MC14053BF Y SWITCH
TO VA-26 BOARD (3/3)
VBS Y

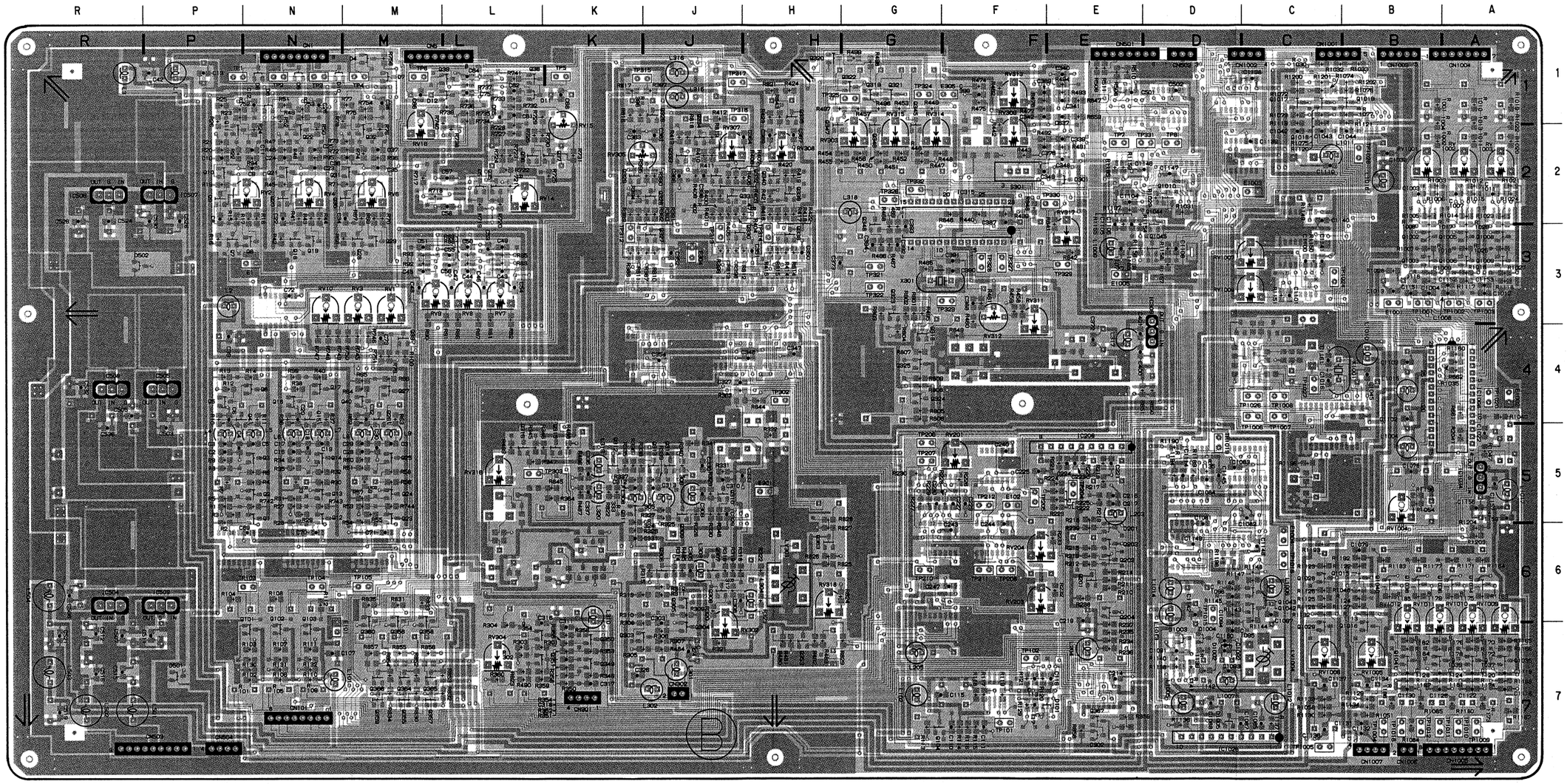

A
B
C
D
E
F
G
H
I
J
TO VA-26 BOARD (1/3)
IC1027 (1/2) SN74LS221NS
IC1023 SN74HC163NS
H SYNC GEN.
4.4Vp-p(H)
CN1001
TO KY-12 BOARD CN3
4.5Vp-p(H) 12.2KHz
CN1003
TO OSC-8 CN1201
CN1004
TO FMY-8 BOARD W4
IC1142 (2/2) TL082CPS
IC601 (2/2) TL082CPS
IC1030 (2/2) TC74HC123AF
Q1007 CXD7500-8 B AMP

VIDEO SWITCH)



VIDEO VA-26 VIDEO VA-26

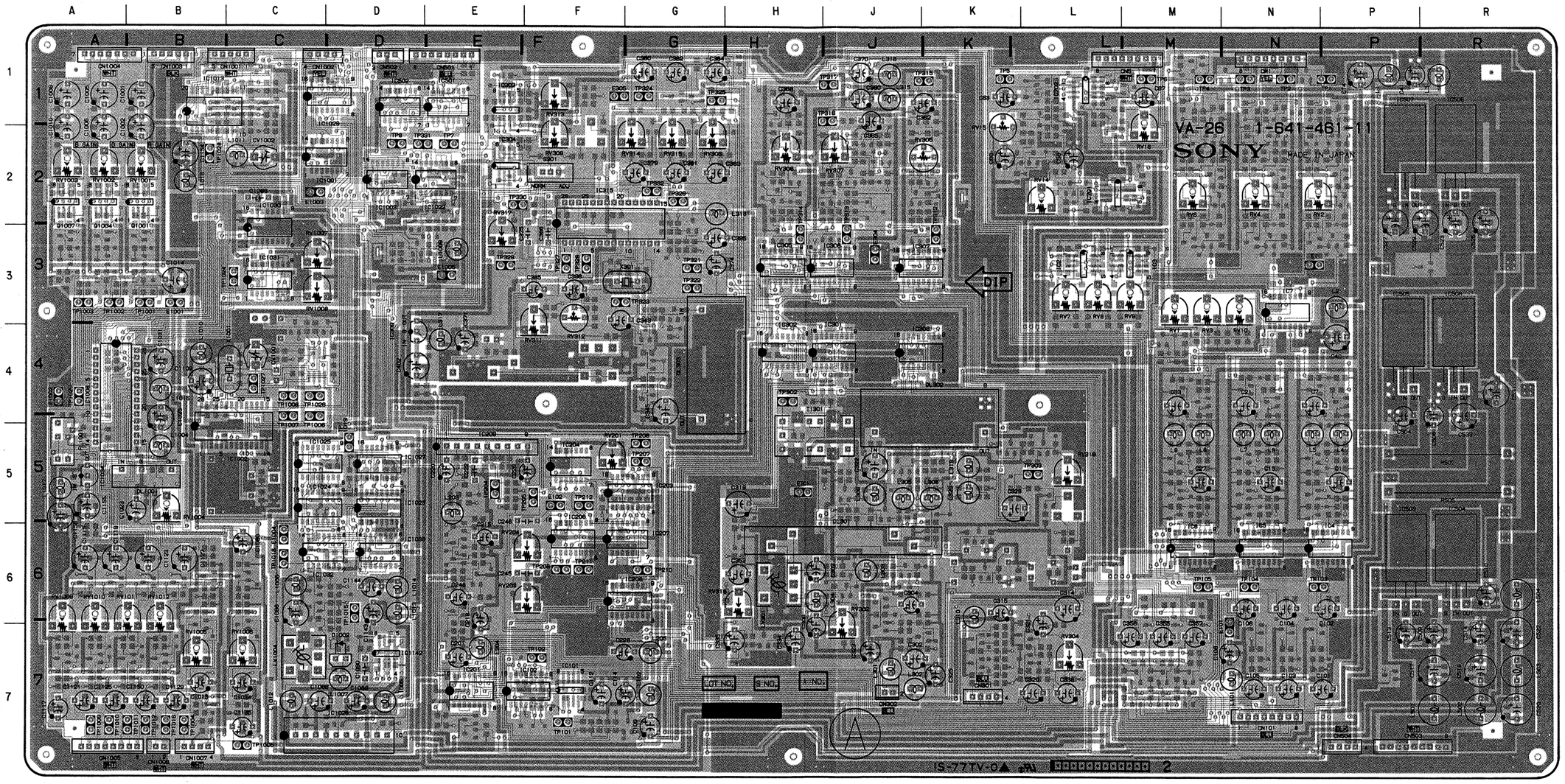
VA-26 (VIDEO AMP, VIDEO SWITCH)



VA-26 –SOLDERING SIDE–
1-641-461-11
UP-5200MD
UP-5250MD

VA-26 Board

CN1	N-1	CV1002	C-2			D1003	D-7	S	E1004	C-6	IC208	G-6	IC507	P-1	IC1032	C-6		Q14	N-5	S	Q32	M-2	S	Q306	J-6	S	Q325	G-4	S	Q349	K-7	S
CN5	M-1					D1004	D-7	S	E1005	E-3	IC209	E-5	IC508	R-3	IC1033	D-6		Q15	N-4	S	Q33	M-4	S	Q307	J-6	S	Q326	J-1	S	Q350	K-7	S
CN101	N-7	D4	M-1	S		D1005	D-7	S			IC301	J-4	IC701	L-2	IC1034	A-5		Q16	N-4	S	Q35	L-2	S	Q308	J-6	S	Q327	J-3	S	Q351	K-7	S
CN301	K-7	D5	L-2	S					FL1001	A-5	IC302	H-4	IC702	L-1	IC1142	D-7		Q17	N-4	S	Q36	L-2	S	Q309	J-6	S	Q328	J-2	S	Q353	H-7	S
CN302	J-7	D6	N-1	S		DL301	J-5				IC303	E-1	IC1001	C-2				Q18	N-3	S	Q37	K-2	S	Q310	J-5	S	Q329	K-2	S	Q354	L-7	S
CN501	E-1	D7	M-1	S		DL302	K-4		IC2	L-3	IC304	E-1	IC1002	C-5	Q1	N-5	S	Q19	N-3	S	Q38	L-1	S	Q311	K-5	S	Q330	H-3	S	Q355	M-7	S
CN502	D-1	D8	N-1	S		DL303	G-4		IC3	M-3	IC305	H-3	IC1003	D-2	Q2	N-5	S	Q20	N-2	S	Q39	M-1	S	Q312	K-5	S	Q331	J-2	S	Q356	M-7	S
CN503	P-7	D9	N-1	S		DL1001	B-5		IC4	P-6	IC306	J-3	IC1008	A-4	Q3	N-5	S	Q21	N-2	S	Q40	N-4	S	Q313	J-5	S	Q332	H-2	S	Q357	M-7	S
CN504	P-7	D10	N-1	S					IC5	N-6	IC307	J-3	IC1013	B-1	Q4	N-4	S	Q22	N-2	S	Q101	P-6	S	Q314	J-5	S	Q333	J-2	S	Q358	M-7	S
CN1001	B-1	D11	L-1	S		E1	N-3		IC6	M-6	IC308	J-4	IC1022	E-2	Q5	P-4	S	Q23	M-5	S	Q102	N-6	S	Q315	K-5	S	Q334	J-1	S	Q359	M-7	S
CN1002	C-1	D12	M-1	S		E101	M-7		IC7	N-3	IC309	D-4	IC1023	D-5	Q6	N-3	S	Q24	M-5	S	Q103	N-6	S	Q316	L-5	S	Q335	H-1	S	Q360	M-7	S
CN1003	B-1	D101	E-7	S		E102	F-5		IC101	F-7	IC315	F-2	IC1024	C-5	Q7	P-3	S	Q25	M-5	S	Q104	G-7	S	Q318	G-4	S	Q338	H-3	S	Q363	H-6	S
CN1004	A-1	D201	E-6	S		E301	H-5		IC102	F-7	IC501	E-1	IC1025	C-5	Q8	N-3	S	Q26	M-4	S	Q201	E-6	S	Q319	G-1	S	Q339	H-2	S	Q364	M-7	S
CN1005	A-7	D301	E-2	S		E304	J-3		IC201	E-7	IC502	D-1	IC1026	D-7	Q9	P-2	S	Q27	M-4	S	Q202	E-6	S	Q320	H-1	S	Q340	H-2	S	Q365	M-7	S
CN1006	B-7	D302	E-7	S		E305	F-1		IC203	G-5	IC503	P-5	IC1027	D-5	Q10	P-2	S	Q28	M-3	S	Q203	E-6	S	Q321	G-1	S	Q345	G-1	S	Q366	M-7	S
CN1007	B-7	D501	P-7	S		E1001	B-3		IC204	F-5	IC504	R-5	IC1029	C-1	Q11	P-1	S	Q29	M-3	S	Q204	E-6	S	Q322	G-1	S	Q346	G-2	S	Q367	E-7	S
		D502	R-3	S		E1002	A-4		IC206	F-5	IC505	P-3	IC1030	C-2	Q12	N-5	S	Q30	N-2	S	Q303	K-7	S	Q323	G-3	S	Q347	H-1	S	Q1001	B-3	
CV1001	C-4	D1002	D-7			E1003	C-2		IC207	G-6	IC506	R-1	IC1031	C-3	Q13	N-5	S	Q31	N-2	S	Q304	J-7	S	Q324	G-4	S	Q348	G-2	S	Q1002	B-3	S

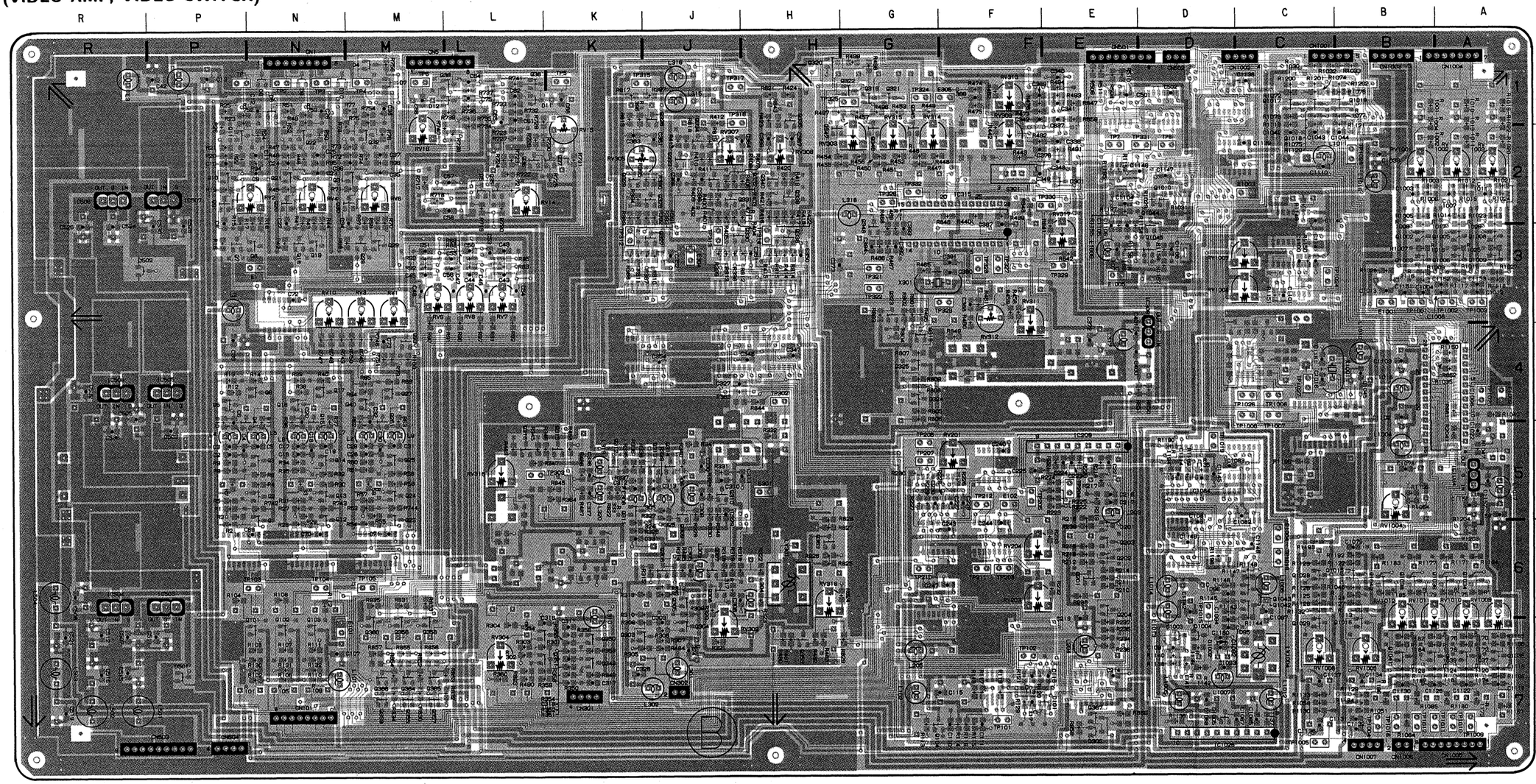


VA-26 –COMPONENT SIDE–
1-641-461-11
UP-5200MD
UP-5250MD

- : Conductor side pattern
- : Component side pattern

Q1003	B-3	S	Q1037	A-7	S	RV10	N-4	RV315	G-2	TI301	H-5	TP208	F-6	TP327	F-3	TP1015	D-7
Q1004	A-3		Q1038	B-6	S	RV14	L-2	RV316	L-5	TP1	P-1	TP210	G-6	TP328	F-3	TP1016	B-7
Q1005	A-3	S	Q1039	A-7	S	RV15	K-2	RV317	E-2	TP2	N-1	TP211	F-6	TP329	E-3	TP1018	C-6
Q1006	A-3	S	Q1040	B-6	S	RV16	M-2	RV318	G-6	TP3	N-1	TP212	F-5	TP330	E-2	TP1019	D-5
Q1007	A-3		Q1041	B-7	S	RV201	F-5	RV1001	B-2	TP4	M-1	TP302	H-4	TP331	D-2	TP1020	A-4
Q1008	A-3	S	Q1042	C-6	S	RV203	E-6	RV1002	A-2	TP5	K-1	TP303	L-5	TP601	C-3	TP1024	B-3
Q1009	A-3	S	Q1043	C-6	S	RV204	E-6	RV1003	A-2	TP6	M-1	TP312	K-2	TP1001	B-3	TP1026	C-4
Q1010	D-2	S	Q1044	D-2	S	RV302	J-6	RV1004	B-5	TP7	E-2	TP313	J-2	TP1002	A-3	TP1027	C-4
Q1015	C-6	S	Q1045	D-3	S	RV303	G-2	RV1005	B-7	TP8	D-2	TP314	H-2	TP1003	A-3	TP1028	B-2
Q1016	B-7	S				RV304	L-7	RV1006	C-7	TP101	F-7	TP315	J-1	TP1004	B-7		
Q1017	C-1	S	RV1	M-4		RV305	J-2	RV1007	C-3	TP102	F-7	TP316	J-1	TP1005	C-7	X301	F-3
Q1018	C-2	S	RV2	N-2		RV307	J-2	RV1008	C-3	TP103	N-6	TP317	J-1	TP1006	C-5	X1001	C-4
Q1019	B-1	S	RV3	M-4		RV308	H-2	RV1009	A-6	TP104	N-6	TP321	G-3	TP1007	C-5		
Q1028	C-6	S	RV4	N-2		RV309	F-2	RV1010	A-6	TP105	M-6	TP322	G-3	TP1008	C-4		
Q1029	C-7	S	RV6	M-2		RV311	F-4	RV1011	A-6	TP204	E-5	TP323	G-3	TP1009	A-7		
Q1034	A-6	S	RV7	L-3		RV312	F-4	RV1012	B-6	TP205	F-5	TP324	G-1	TP1010	A-7		
Q1035	A-7	S	RV8	L-3		RV313	F-1			TP206	G-5	TP325	G-1	TP1011	B-7		
Q1036	B-6	S	RV9	M-3		RV314	G-2	S301	F-2	TP207	G-5	TP326	G-2	TP1012	B-7		

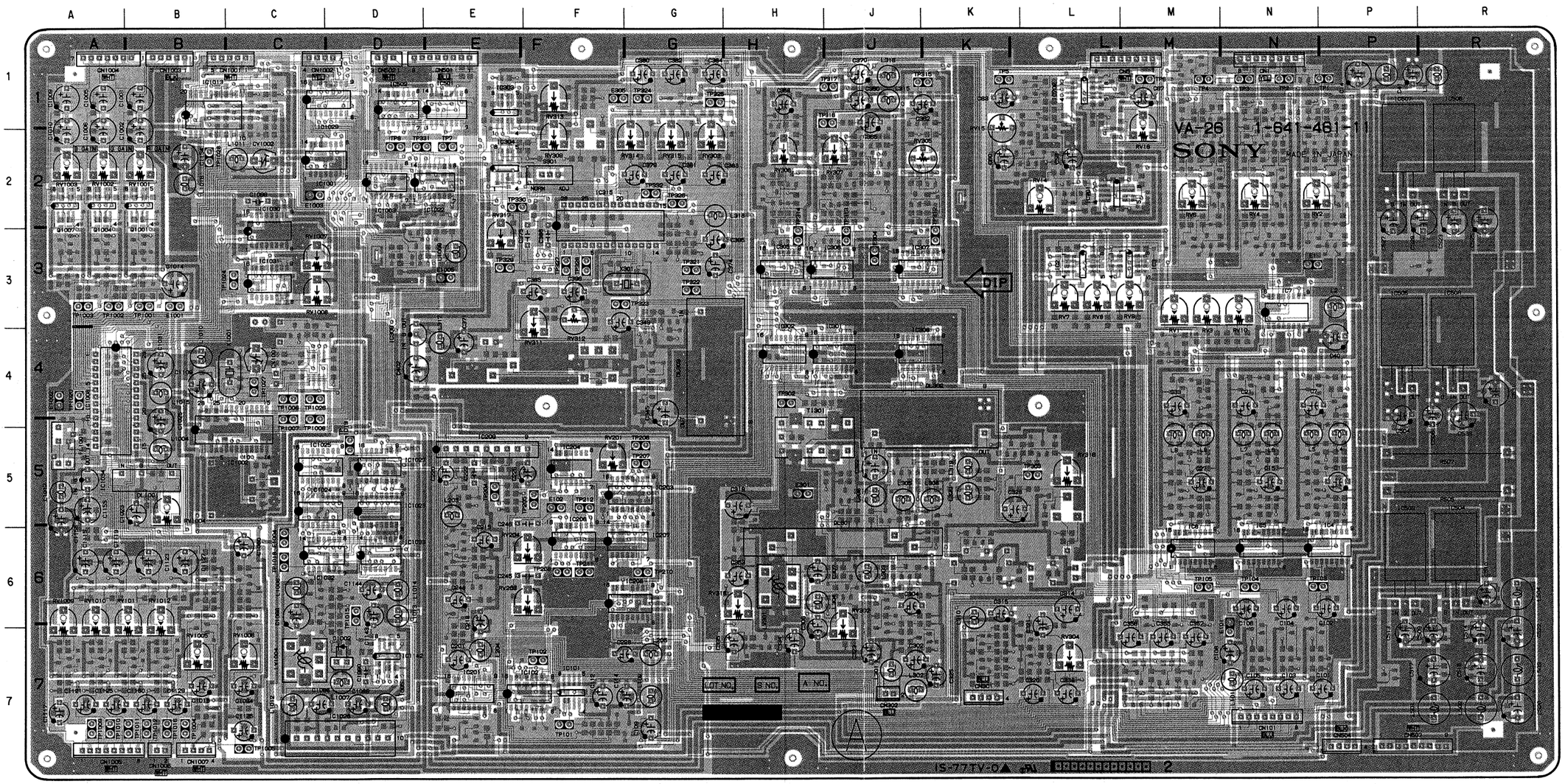
VA-26 (VIDEO AMP, VIDEO SWITCH)



VA-26 –SOLDERING SIDE–
1-641-461-11
UP-5200MD
UP-5250MD

VA-26 Board

CN1	N-1	CV1002	C-2		D1003	D-7	S	E1004	C-6	IC208	G-6	IC507	P-1	IC1032	C-6	Q14	N-5	S	Q32	M-2	S	Q306	J-6	S	Q325	G-4	S	Q349	K-7	S
CN5	M-1				D1004	D-7	S	E1005	E-3	IC209	E-5	IC508	R-3	IC1033	D-6	Q15	N-4	S	Q33	M-4	S	Q307	J-6	S	Q326	J-1	S	Q350	K-7	S
CN101	N-7	D4	M-1	S	D1005	D-7	S			IC301	J-4	IC701	L-2	IC1034	A-5	Q16	N-4	S	Q35	L-2	S	Q308	J-6	S	Q327	J-3	S	Q351	K-7	S
CN301	K-7	D5	L-2	S				FL1001	A-5	IC302	H-4	IC702	L-1	IC1142	D-7	Q17	N-4	S	Q36	L-2	S	Q309	J-6	S	Q328	J-2	S	Q353	H-7	S
CN302	J-7	D6	N-1	S	DL301	J-5				IC303	E-1	IC1001	C-2			Q18	N-3	S	Q37	K-2	S	Q310	J-5	S	Q329	K-2	S	Q354	L-7	S
CN501	E-1	D7	M-1	S	DL302	K-4		IC2	L-3	IC304	E-1	IC1002	C-5	Q1	N-5	S	Q19	N-3	S	Q38	L-1	S	Q311	K-5	S	Q330	H-3	S	Q355	M-7	S
CN502	D-1	D8	N-1	S	DL303	G-4		IC3	M-3	IC305	H-3	IC1003	D-2	Q2	N-5	S	Q20	N-2	S	Q39	M-1	S	Q312	K-5	S	Q331	J-2	S	Q356	M-7	S
CN503	P-7	D9	N-1	S	DL1001	B-5		IC4	P-6	IC306	J-3	IC1008	A-4	Q3	N-5	S	Q21	N-2	S	Q40	N-4	S	Q313	J-5	S	Q332	H-2	S	Q357	M-7	S
CN504	P-7	D10	N-1	S				IC5	N-6	IC307	J-3	IC1013	B-1	Q4	N-4	S	Q22	N-2	S	Q101	P-6	S	Q314	J-5	S	Q333	J-2	S	Q358	M-7	S
CN1001	B-1	D11	L-1	S	E1	N-3		IC6	M-6	IC308	J-4	IC1022	E-2	Q5	P-4	S	Q23	M-5	S	Q102	N-6	S	Q315	K-5	S	Q334	J-1	S	Q359	M-7	S
CN1002	C-1	D12	M-1	S	E101	M-7		IC7	N-3	IC309	D-4	IC1023	D-5	Q6	N-3	S	Q24	M-5	S	Q103	N-6	S	Q316	L-5	S	Q335	H-1	S	Q360	M-7	S
CN1003	B-1	D101	E-7	S	E102	F-5		IC101	F-7	IC315	F-2	IC1024	C-5	Q7	P-3	S	Q25	M-5	S	Q104	G-7	S	Q318	G-4	S	Q338	H-3	S	Q363	H-6	S
CN1004	A-1	D201	E-6	S	E301	H-5		IC102	F-7	IC501	E-1	IC1025	C-5	Q8	N-3	S	Q26	M-4	S	Q201	E-6	S	Q319	G-1	S	Q339	H-2	S	Q364	M-7	S
CN1005	A-7	D301	E-2	S	E304	J-3		IC201	E-7	IC502	D-1	IC1026	D-7	Q9	P-2	S	Q27	M-4	S	Q202	E-6	S	Q320	H-1	S	Q340	H-2	S	Q365	M-7	S
CN1006	B-7	D302	E-7	S	E305	F-1		IC203	G-5	IC503	P-5	IC1027	D-5	Q10	P-2	S	Q28	M-3	S	Q203	E-6	S	Q321	G-1	S	Q345	G-1	S	Q366	M-7	S
CN1007	B-7	D501	P-7	S	E1001	B-3		IC204	F-5	IC504	R-5	IC1029	C-1	Q11	P-1	S	Q29	M-3	S	Q204	E-6	S	Q322	G-1	S	Q346	G-2	S	Q367	E-7	S
		D502	R-3	S	E1002	A-4		IC206	F-5	IC505	P-3	IC1030	C-2	Q12	N-5	S	Q30	N-2	S	Q303	K-7	S	Q323	G-3	S	Q347	H-1	S	Q1001	B-3	
CV1001	C-4	D1002	D-7		E1003	C-2		IC207	G-6	IC506	R-1	IC1031	C-3	Q13	N-5	S	Q31	N-2	S	Q304	J-7	S	Q324	G-4	S	Q348	G-2	S	Q1002	B-3	S



VA-26 –COMPONENT SIDE–
1-641-461-11
UP-5200MD
UP-5250MD

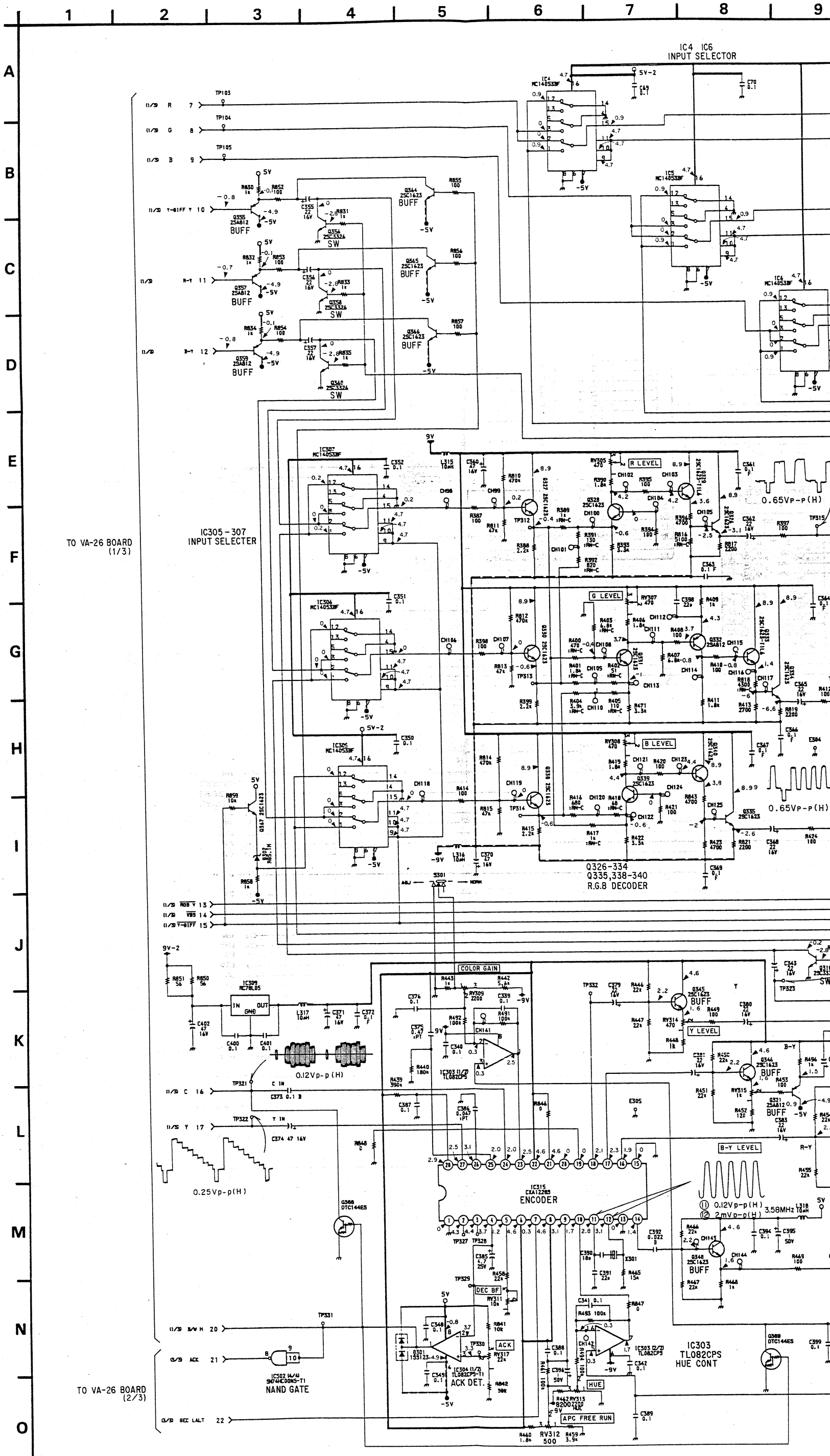
Q1003	B-3	S	Q1037	A-7	S	RV10	N-4	RV315	G-2	TI301	H-5	TP208	F-6	TP327	F-3	TP1015	D-7
Q1004	A-3		Q1038	B-6	S	RV14	L-2	RV316	L-5	TP1	P-1	TP210	G-6	TP328	F-3	TP1016	B-7
Q1005	A-3	S	Q1039	A-7	S	RV15	K-2	RV317	E-2	TP2	N-1	TP211	F-6	TP329	E-3	TP1018	C-6
Q1006	A-3	S	Q1040	B-6	S	RV16	M-2	RV318	G-6	TP3	N-1	TP212	F-5	TP330	E-2	TP1019	D-5
Q1007	A-3		Q1041	B-7	S	RV201	F-5	RV1001	B-2	TP4	M-1	TP302	H-4	TP331	D-2	TP1020	A-4
Q1008	A-3	S	Q1042	C-6	S	RV203	E-6	RV1002	A-2	TP5	K-1	TP303	L-5	TP601	C-3	TP1024	B-3
Q1009	A-3	S	Q1043	C-6	S	RV204	E-6	RV1003	A-2	TP6	M-1	TP312	K-2	TP1001	B-3	TP1026	C-4
Q1010	D-2	S	Q1044	D-2	S	RV302	J-6	RV1004	B-5	TP7	E-2	TP313	J-2	TP1002	A-3	TP1027	C-4
Q1015	C-6	S	Q1045	D-3	S	RV303	G-2	RV1005	B-7	TP8	D-2	TP314	H-2	TP1003	A-3	TP1028	B-2
Q1016	B-7	S				RV304	L-7	RV1006	C-7	TP101	F-7	TP315	J-1	TP1004	B-7		
Q1017	C-1	S	RV1	M-4		RV305	J-2	RV1007	C-3	TP102	F-7	TP316	J-1	TP1005	C-7	X301	F-3
Q1018	C-2	S	RV2	N-2		RV307	J-2	RV1008	C-3	TP103	N-6	TP317	J-1	TP1006	C-5	X1001	C-4
Q1019	B-1	S	RV3	M-4		RV308	H-2	RV1009	A-6	TP104	N-6	TP321	G-3	TP1007	C-5		
Q1028	C-6	S	RV4	N-2		RV309	F-2	RV1010	A-6	TP105	M-6	TP322	G-3	TP1008	C-4		
Q1029	C-7	S	RV6	M-2		RV311	F-4	RV1011	A-6	TP204	E-5	TP323	G-3	TP1009	A-7		
Q1034	A-6	S	RV7	L-3		RV312	F-4	RV1012	B-6	TP205	F-5	TP324	G-1	TP1010	A-7		
Q1035	A-7	S	RV8	L-3		RV313	F-1			TP206	G-5	TP325	G-1	TP1011	B-7		
Q1036	B-6	S	RV9	M-3		RV314	G-2	S301	F-2	TP207	G-5	TP326	G-2	TP1012	B-7		

- : Conductor side pattern
- : Component side pattern

VIDEO **VA-26**

VIDEO **VA-26**

VA-26 — 3/3 — (VIDEO AMP, VIDEO SWITCH)



IC4 IC6
INPUT SELECTOR

Q1-Q3
R AMP

Q12-Q14
G AMP

Q23-Q25
B AMP

R.G.B AMP

MIX

R.G.B OUTPUT AMP

IC5 MC14053BF

IC6 MC14053BF

-5V

0.65Vp-p(H)

0.7Vp-p(H)

R LEVEL

B LEVEL

Y LEVEL

B-Y LEVEL

R-Y LEVEL

B OFFSET

G OFFSET

B DC AMP

G DC AM

R DC AMP

Q5,16,40
SW

IC7
MC14053BF
BLK SW

B BLK LEVEL

R BLK LEVEL

G BLK LEVEL

Q35-38
GAIN CONT

IC702
RC4560M
GAIN CONT

IC701
RC4560M
GAIN CONT

AGC RANGE

AGC LEVEL

Q323-325
Y DELAY

IC303
TL082CPS
HUE CONT

IC504
-9V REG

+9V REG

-5V REG

IC4 IC6
INPUT SELECTOR

Q1-Q3
R AMP

R.G.B AMP

Q12-Q14
G AMP

Q23-Q25
B AMP

Q5,16,40
SW

Q35-38
GAIN CONT

0.65Vp-p(H)

B DC AMP

G DC AM

R DC AMP

Q326-334
Q335,338-340
R.G.B DECODER

0.7Vp-p(H)

Q323-325
Y DELAY

IC303
TL082CPS
HUE CONT

IC701
RC4560M
GAIN CONT

IC504
-9V REG

ENCODER

16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

MIX

R.G.B OUTPUT AMP

9V-2

1.8Vp-p(H)

TO FMY-8 BOARD
W1

CN1 8P	
R	1
GND	2
B	3
GND	4
B	5
GND	6
REF	7
GND	8

A/D IN R GAIN

A/D IN G GAIN

A/D IN B GAIN

AGC LEVEL

GAIN LEVEL

IC7
MC14053BF
BLK SW

IC702
RC4560M
GAIN CONT

5V-2

-5V

-9V

TO VA-26 BOARD(1/3)

19	CLAMP	11/33
18	VH BLK	11/33

TO DSC-8 BOARD
CN1101

CN5 8P	
+9V	1
COLOR	2
GND	3
HUE	4
GAIN	5
SELECT	6
AGC	7
VAR	8

TO SY-9 BOARD
CN3

CN501 8P	
SIGNAL 1	1
SIGNAL 2	2
NC	3
SRS/THRU	4
RGB/Y-DIFF	5
SIG DET	6
HT/HORN	7
GND	8

TO VA-26 BOARD(2/3)

TO VA-26 BOARD(1/3)

CN502 3P	
SRS/THRU	1
GND	2
RGB/Y-DIFF	3

TO IF-19 BOARD
CN801

6	DEC SC	13/33
5	SIGNAL 2	13/33
4	SIGNAL 1	13/33

TO VA-26 BOARD(2/3)

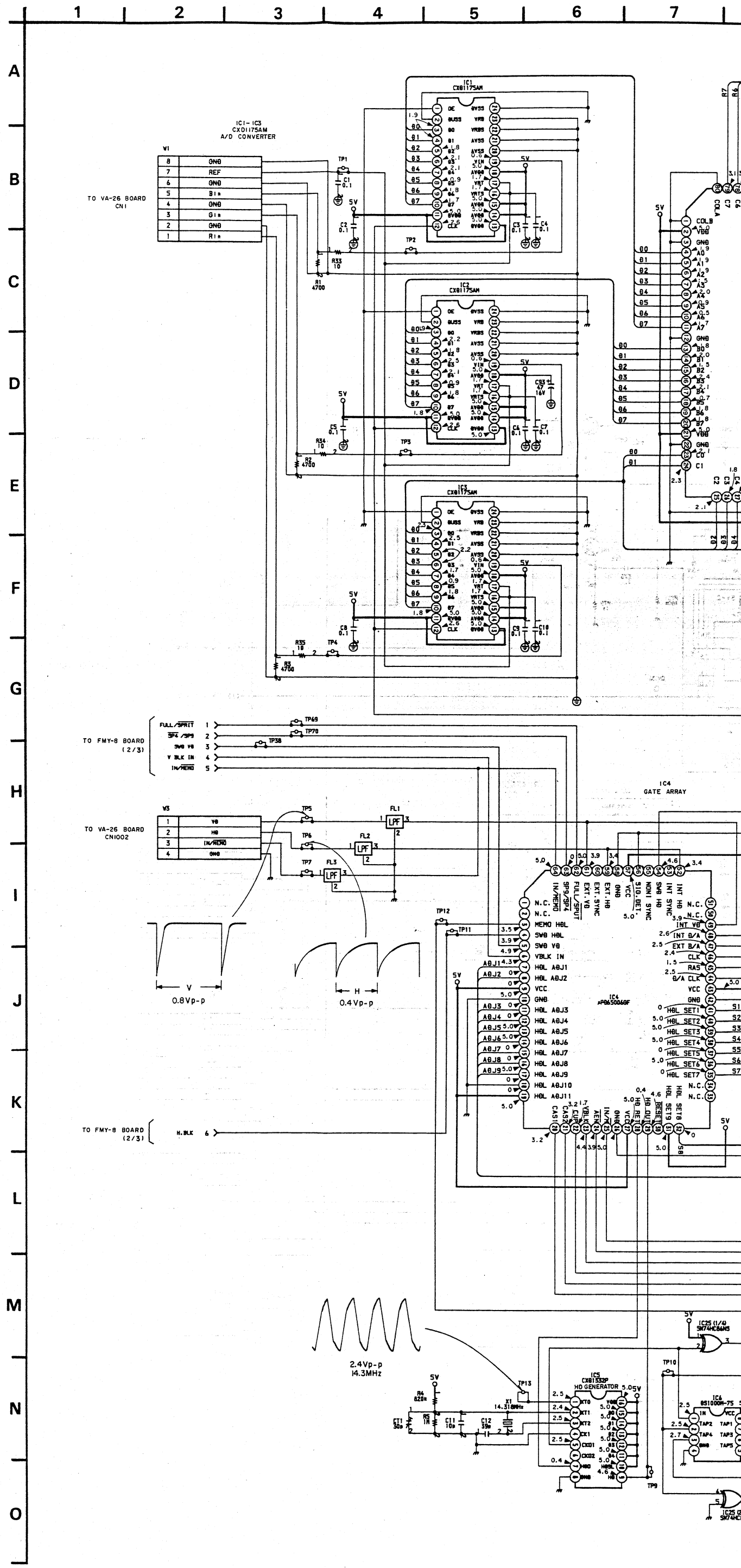
TO PS BOARD
CN4

CN503 9P	
+12V	1
+12V	2
GND	3
GND	4
-12V	5
+5V	6
+5V	7
GND	8
GND	9

CN504 4P	
+9V	1
+5V	2
GND	3
-5V	4

TO IF-19 BOARD
CN802

FMY-8 — 1/3 — (FRAME MEMORY)



IC9 - IC20
HM51H256AZP-8(UP-5200MD ONLY)
HM51H240AZP-8(UP-5250MD ONLY)
DRAM

IC7
μPD65013GF-052
DRAM
CONTROLLER

IC8(2/4)
SN74HC32NS
OR

IC27(1/6)
SN74HC04NS
INVERTER

IC4
TE ARRAY

IC21 IC22 IC23
MC74F245M

RN1
1000

CAS1
CAS2
RAS

TP18 TP19 TP17

IC26(1/4) IC26(2/4) IC26(4/4)
SN74HC32NS

TP37 TP65 TP16

TP21 TP14 TP15

IC25(1/4) IC25(2/4) IC25(3/4) IC25(4/4)
SN74HC86NS

IC6
851000H-75

TP10 TP25 TP8

IC8(3/4) IC8(4/4) IC8(1/4)
SN74HC32NS

IC9 - IC20
HM51H256AZP-8(UP-5200MD ONLY)
HM51H240AZP-8(UP-5250MD ONLY)
DRAM

IC1 CX8117SAM
IC2 CX8117SAM
IC3 CX8117SAM
IC7 μPD6450150F-052 DRAM CONTROLLER
IC4 GATE ARRAY
IC5 CX81532P HD GENERATOR
IC6 BS1000M-75
IC6 μPD6500060F
IC8(2/4) SN74HC32NS OR
IC27(1/6) SN74HC04NS INVERTER
IC25(1/4) SN74HC86NS
IC8(3/4) SN74HC32NS
IC8(4/4) SN74HC32NS
IC25(3/4) SN74HC86NS
IC8(1/4) SN74HC32NS
IC25(4/4) SN74HC86NS
IC26(4/4) SN74HC32NS
IC25(2/4) SN74HC86NS

TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP16 TP21 TP25 TP37 TP65 TP69 TP70 TP38

FL1 FL2 FL3 LPF

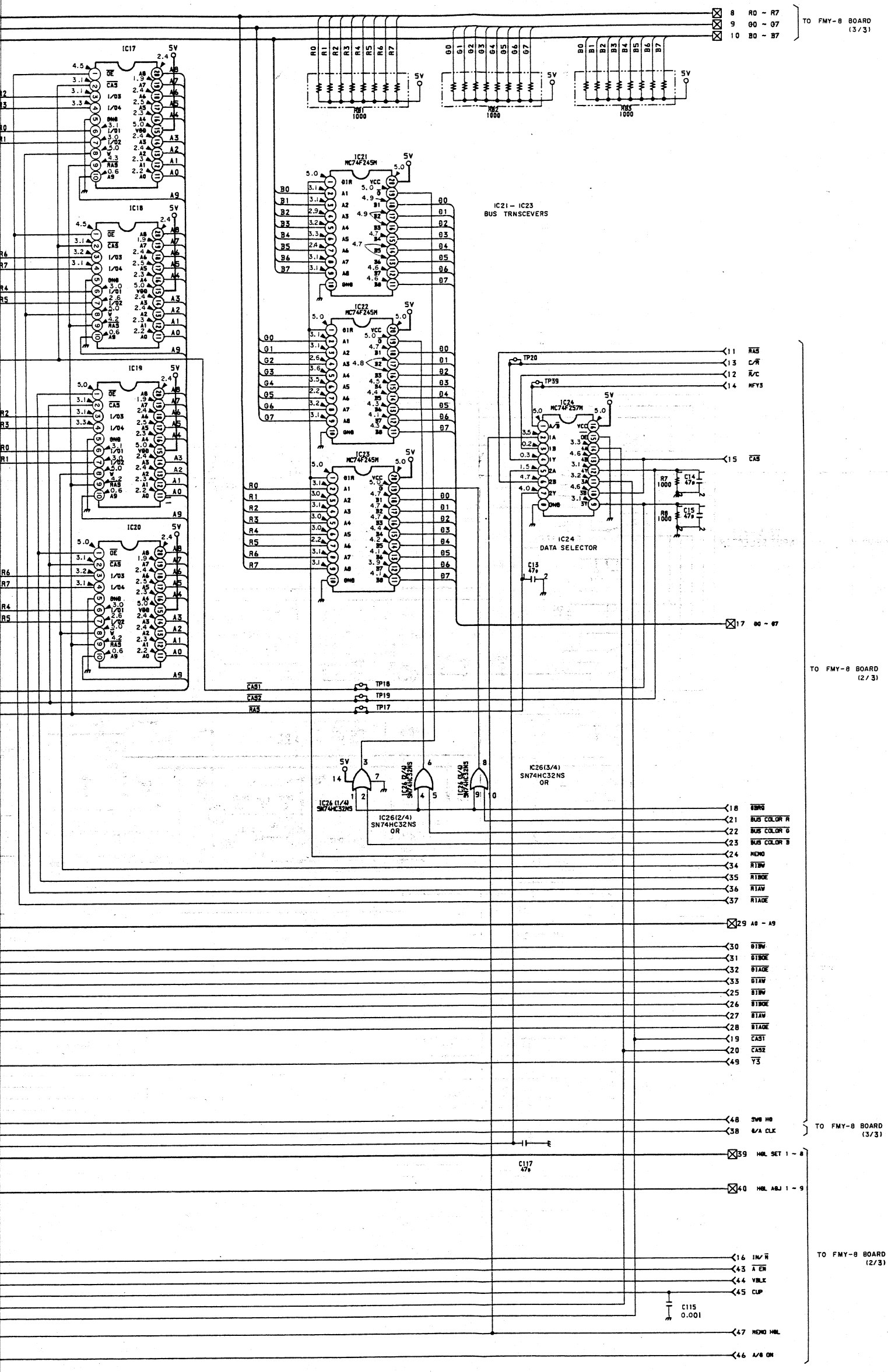
R1 4700 R2 4700 R33 10 R34 10 R35 10 R4 820k R5 1M

C1 0.1 C2 0.1 C3 0.1 C4 0.1 C5 0.1 C7 0.1 C8 0.1 C9 0.1 C10 0.1 C83 47 16V C11 10p C12 39p CT1 30p

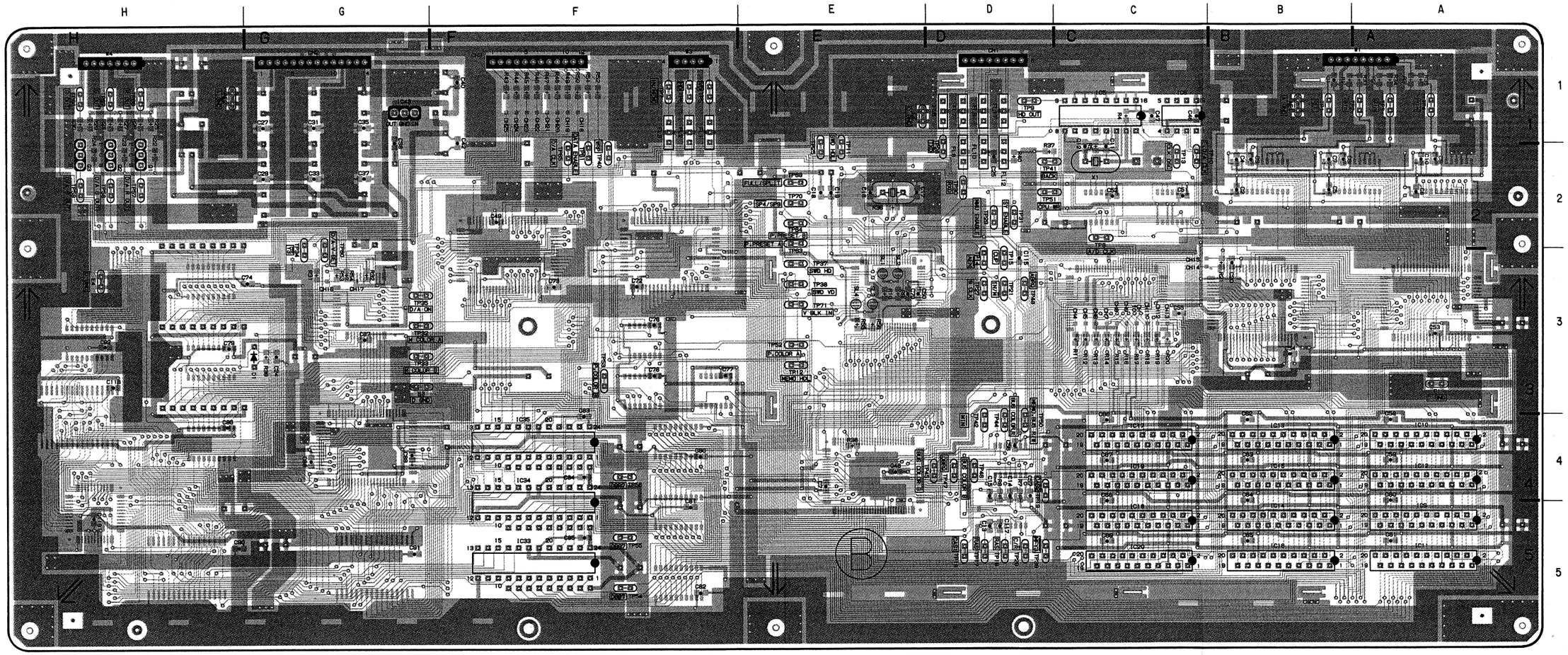
X1 14.318MHz

H
0.4Vp-p

2.4Vp-p
14.3MHz


8 R0 ~ R7
9 G0 ~ G7
10 B0 ~ B7
TO FMY-8 BOARD (3/3)
IC21 ~ IC23 BUS TRNSCEVERS
IC24 DATA SELECTOR
IC26(1/4) SN74HC32NS OR
IC26(2/4) SN74HC32NS OR
IC26(3/4) SN74HC32NS OR
TP16
TP17
TP18
TP19
TP20
TP39
CAS1
CAS2
RAS
11 RAS
13 C/R
12 R/C
14 MFY3
15 CAS
17 R0 ~ R7
18 SYNC
21 BUS COLOR R
22 BUS COLOR G
23 BUS COLOR B
24 MEMO
34 R1BW
35 R1BOE
36 R1AW
37 R1AOE
29 A0 ~ A9
30 B1BW
31 B1BOE
32 B1AOE
33 B1AW
25 B1BW
26 B1BOE
27 B1AW
28 B1AOE
19 CAS1
20 CAS2
49 Y3
48 SYS H0
38 D/A CLK
39 H&L SET 1 ~ 8
40 H&L ADJ 1 ~ 9
16 IN/R
43 A EN
44 VBLK
45 CUP
47 MEMO H&L
46 A/B ON
TO FMY-8 BOARD (2/3)
TO FMY-8 BOARD (3/3)
TO FMY-8 BOARD (2/3)
C117 47p
C115 0.001
C14 47p
C15 47p

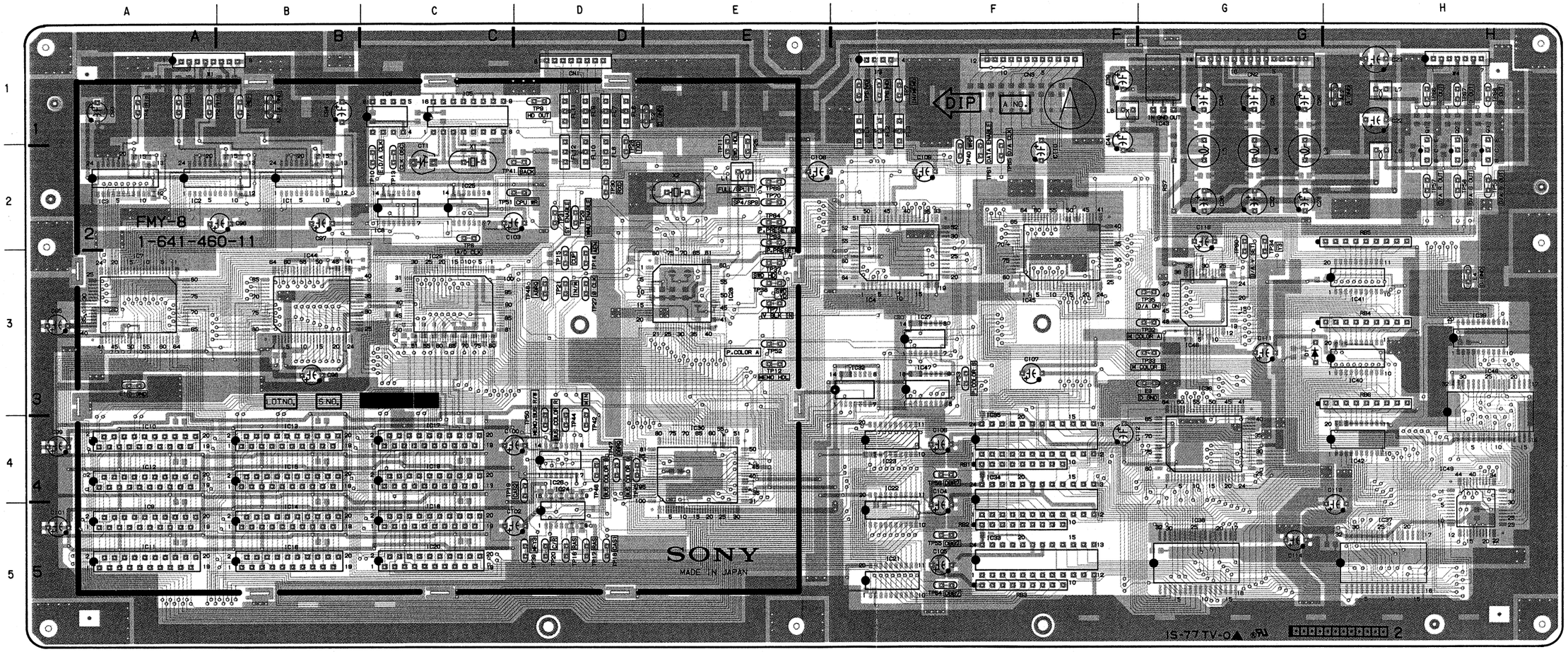
FMY-8 (FRAME MEMORY)



FMY-8 –SOLDERING SIDE–
1-641-460-11
UP-5200MD
UP-5250MD

FMY-8 Board

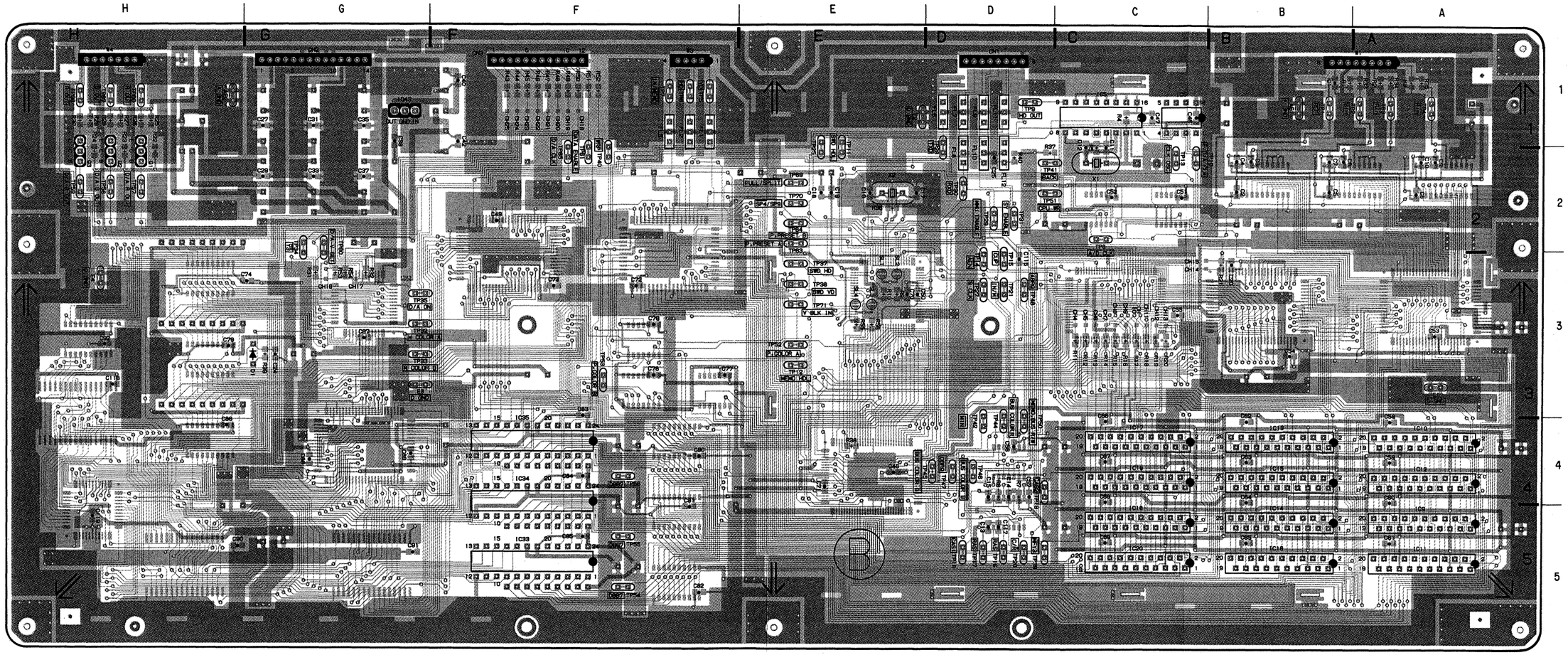
CN1	D-1	IC8	C-2	IC39	H-3	L8	F-1	TP7	F-1	TP29	D-2	TP50	D-4	TP69	E-2
CN2	G-1	IC21	F-5	IC40	H-3	Q1	H-2	TP8	C-2	TP30	D-2	TP51	C-2	TP70	E-2
CN3	F-1	IC22	F-4	IC41	H-3	Q2	H-2	TP9	D-1	TP31	D-2	TP52	E-3	TP71	E-3
		IC23	F-4	IC42	H-4	Q3	H-2	TP10	C-2	TP32	G-3	TP53	F-3		
CT1	C-2	IC24	D-4	IC43	G-1			TP11	E-2	TP33	G-3	TP54	F-5	W1	A-1
		IC25	C-2	IC44	B-3	RB1	F-4	TP12	E-3	TP34	G-1	TP55	F-5	W3	F-1
E1	A-3	IC26	D-4	IC45	F-3	RB2	F-5	TP13	C-2	TP35	G-3	TP56	F-4	W4	H-1
E2	E-1	IC27	F-3	IC46	G-3	RB3	F-5	TP14	D-3	TP37	E-3	TP57	H-2		
E3	G-3	IC28	E-3	IC47	F-3	RB4	H-3	TP15	D-3	TP38	E-3	TP58	H-2	X1	C-2
E4	H-3	IC29	C-3	IC48	H-3	RB5	H-2	TP16	D-5	TP39	D-5	TP59	H-2	X2	E-2
		IC30	E-4	IC49	H-4	RB6	H-3	TP17	D-5	TP40	F-2	TP60	G-1		
IC1	B-2	IC32	F-3					TP18	D-5	TP41	C-2	TP61	F-2		
IC2	A-2	IC33	F-5	L1	E-2	TP1	B-1	TP19	C-4	TP42	D-4	TP63	E-2		
IC3	A-2	IC34	F-4	L3	G-2	TP2	B-1	TP20	D-5	TP44	D-4	TP64	E-2		
IC4	F-3	IC35	F-4	L4	G-2	TP3	A-1	TP21	D-3	TP45	D-4	TP65	F-2		
IC5	C-1	IC36	G-3	L5	G-5	TP4	A-1	TP25	D-3	TP46	D-4	TP66	H-1		
IC6	C-1	IC37	H-5	L6	H-2	TP5	F-1	TP27	D-3	TP47	D-4	TP67	H-1		
IC7	A-3	IC38	G-5	L7	H-1	TP6	F-1	TP28	D-2	TP48	D-3	TP68	H-1		



FMY-8 —COMPONENT SIDE—
1-641-460-11
UP-5200MD
UP-5250MD

- : Conductor side pattern
- : Component side pattern

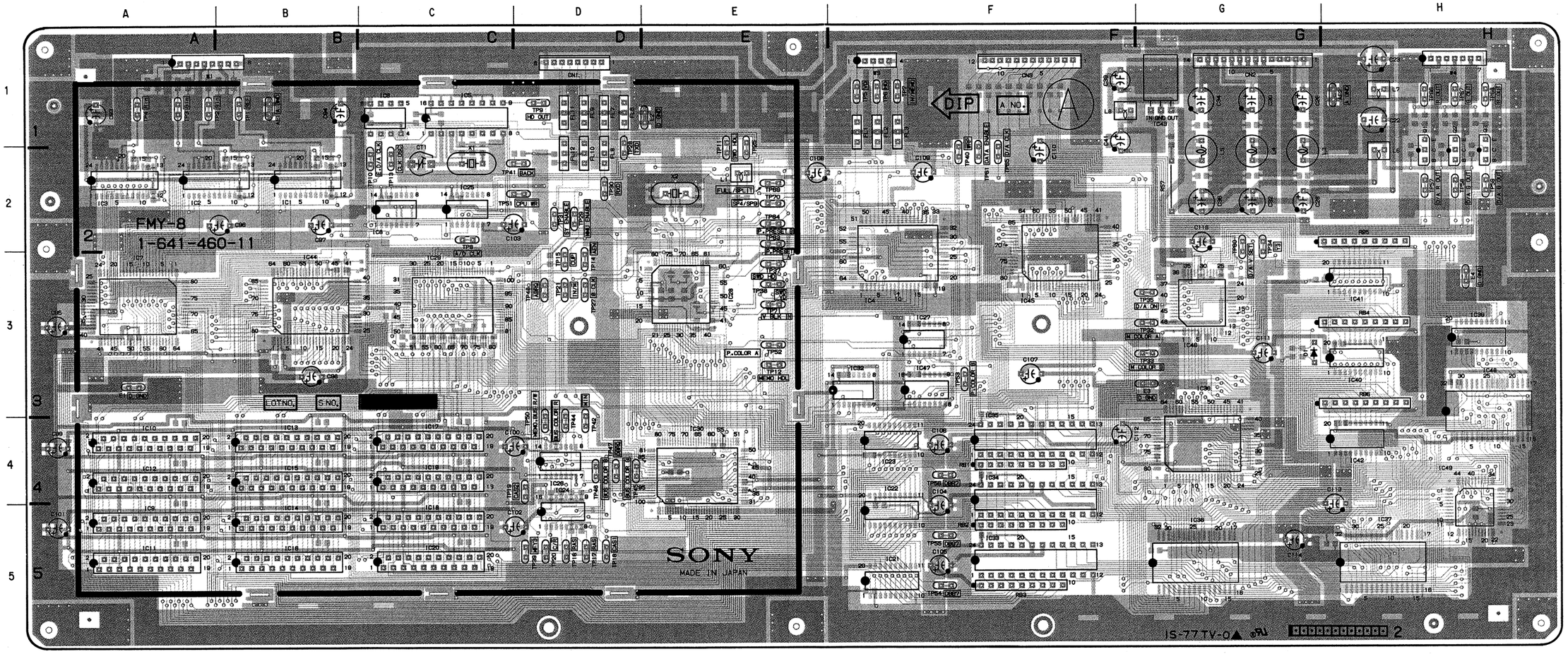
FMY-8 (FRAME MEMORY)



FMY-8 –SOLDERING SIDE–
1-641-460-11
UP-5200MD
UP-5250MD

FMY-8 Board

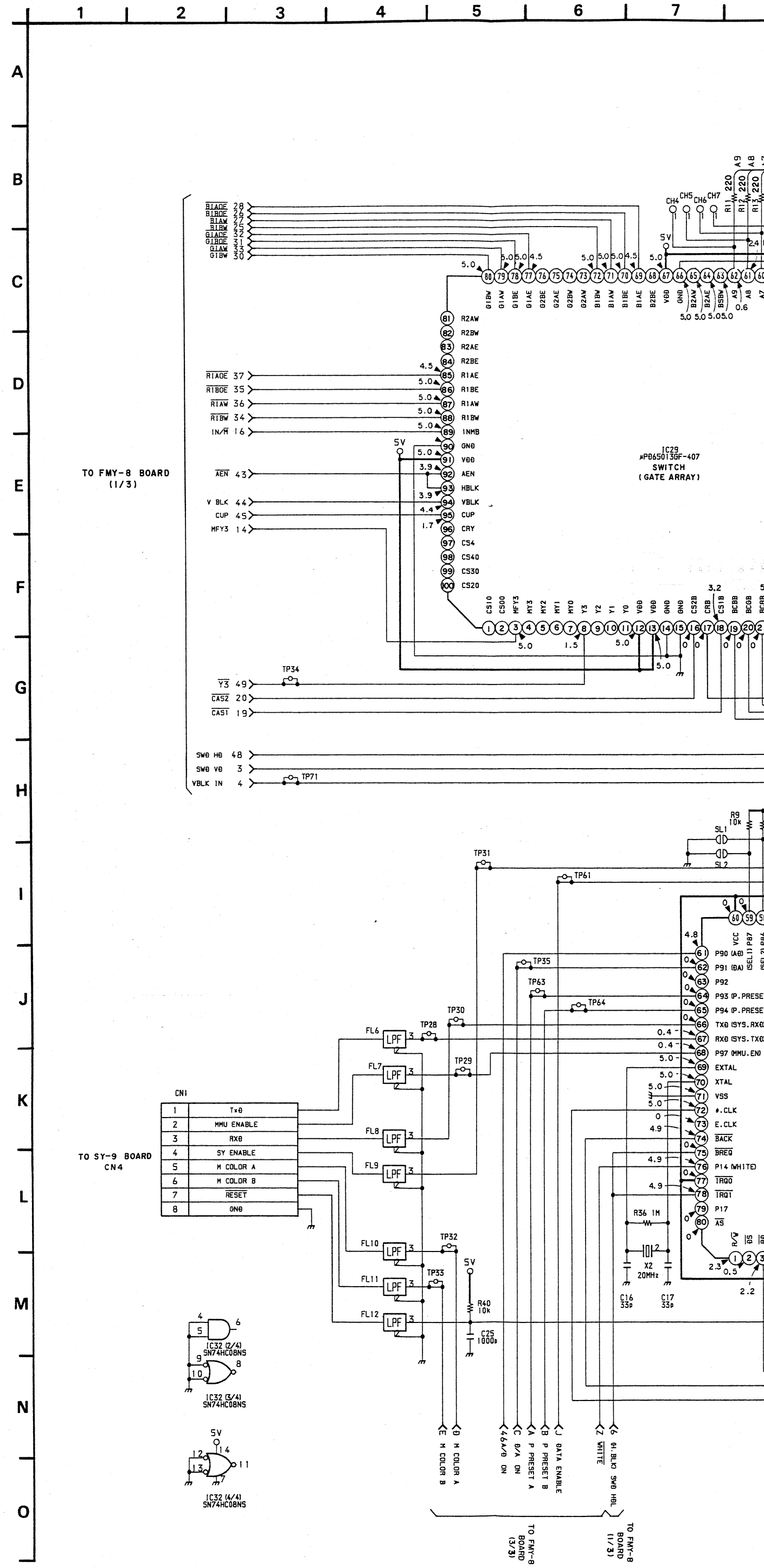
CN1	D-1	IC8	C-2	IC39	H-3	L8	F-1	TP7	F-1	TP29	D-2	TP50	D-4	TP69	E-2
CN2	G-1	IC21	F-5	IC40	H-3	Q1	H-2	TP8	C-2	TP30	D-2	TP51	C-2	TP70	E-2
CN3	F-1	IC22	F-4	IC41	H-3	Q2	H-2	TP9	D-1	TP31	D-2	TP52	E-3	TP71	E-3
		IC23	F-4	IC42	H-4	Q3	H-2	TP10	C-2	TP32	G-3	TP53	F-3		
CT1	C-2	IC24	D-4	IC43	G-1			TP11	E-2	TP33	G-3	TP54	F-5	W1	A-1
		IC25	C-2	IC44	B-3	RB1	F-4	TP12	E-3	TP34	G-1	TP55	F-5	W3	F-1
E1	A-3	IC26	D-4	IC45	F-3	RB2	F-5	TP13	C-2	TP35	G-3	TP56	F-4	W4	H-1
E2	E-1	IC27	F-3	IC46	G-3	RB3	F-5	TP14	D-3	TP37	E-3	TP57	H-2		
E3	G-3	IC28	E-3	IC47	F-3	RB4	H-3	TP15	D-3	TP38	E-3	TP58	H-2	X1	C-2
E4	H-3	IC29	C-3	IC48	H-3	RB5	H-2	TP16	D-5	TP39	D-5	TP59	H-2	X2	E-2
		IC30	E-4	IC49	H-4	RB6	H-3	TP17	D-5	TP40	F-2	TP60	G-1		
IC1	B-2	IC32	F-3					TP18	D-5	TP41	C-2	TP61	F-2		
IC2	A-2	IC33	F-5	L1	E-2	TP1	B-1	TP19	C-4	TP42	D-4	TP63	E-2		
IC3	A-2	IC34	F-4	L3	G-2	TP2	B-1	TP20	D-5	TP44	D-4	TP64	E-2		
IC4	F-3	IC35	F-4	L4	G-2	TP3	A-1	TP21	D-3	TP45	D-4	TP65	F-2		
IC5	C-1	IC36	G-3	L5	G-5	TP4	A-1	TP25	D-3	TP46	D-4	TP66	H-1		
IC6	C-1	IC37	H-5	L6	H-2	TP5	F-1	TP27	D-3	TP47	D-4	TP67	H-1		
IC7	A-3	IC38	G-5	L7	H-1	TP6	F-1	TP28	D-2	TP48	D-3	TP68	H-1		



FMY-8 –COMPONENT SIDE–
1-641-460-11
UP-5200MD
UP-5250MD

● : Conductor side pattern
● : Component side pattern

MEMORY	MEMORY
FMY-8	FMY-8

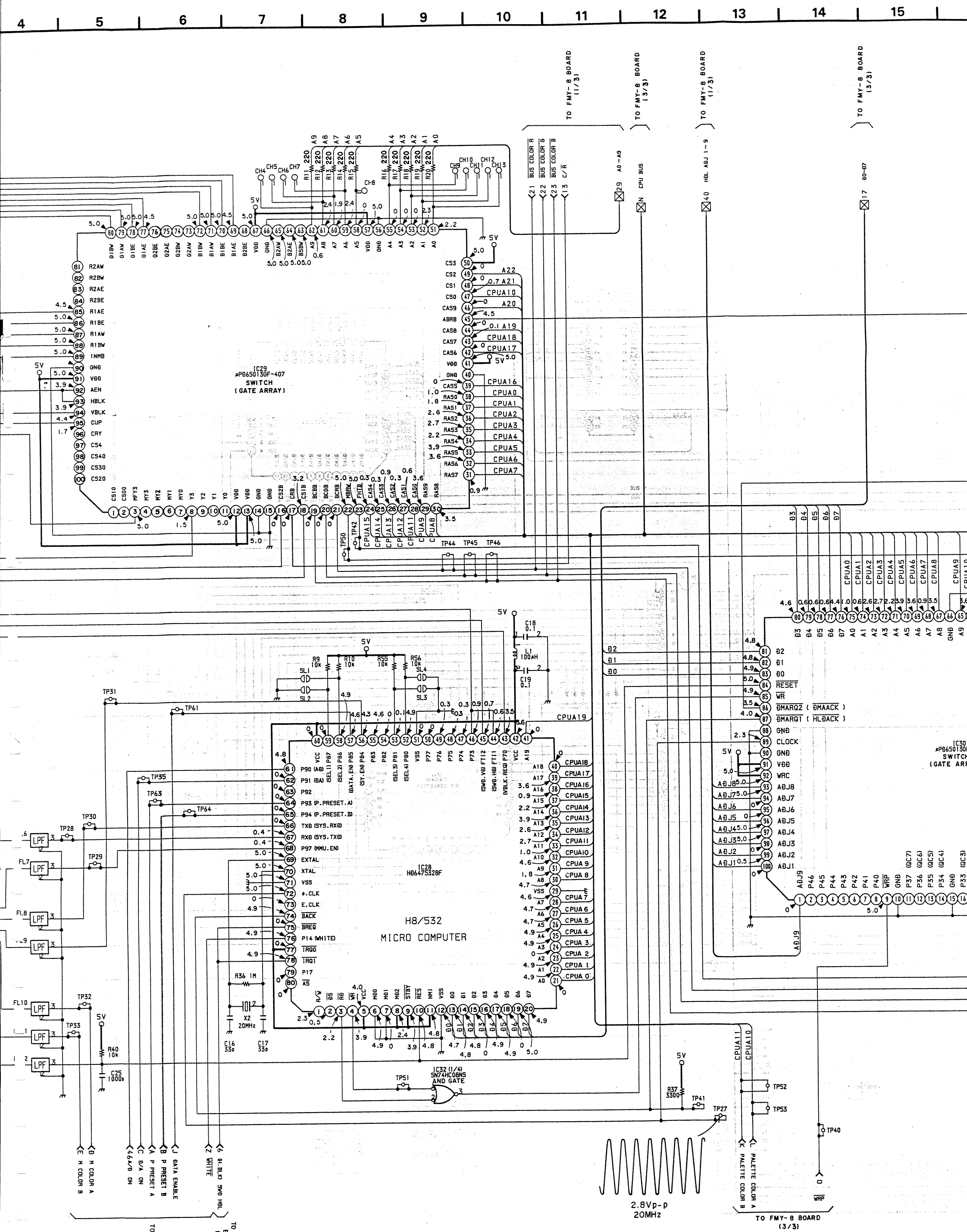

1 2 3 4 5 6 7
A B C D E F G H I J K L M N O
TO FMY-8 BOARD (1/3)
IC29 μPD65013GF-407 SWITCH (GATE ARRAY)
R1AOE 28
R1BOE 29
R1AW 27
R1BW 25
G1AOE 32
G1BOE 31
G1AW 33
G1BW 30
R1AOE 37
R1BOE 35
R1AW 36
R1BW 34
IN/M 16
AEN 43
V BLK 44
CUP 45
MFY3 14
Y3 49
CAS2 20
CAS1 19
SW0 H0 48
SW0 V0 3
VBLK IN 4
TP34
TP71
R2AW
R2BW
R2AE
R2BE
R1AE
R1BE
R1AW
R1BW
INMB
GN0
V00
AEN
HBLK
VBLK
CUP
CRY
CS4
CS40
CS30
CS20
CH4 CH5 CH6 CH7
R11 220
R12 220
R13 220
A9
A8
5V
G1BW G1AW G1BE G1AE G2BE G2AE G2BW G2AW B1BW B1AW B1BE B1AE B2BE V00 GN0 B2AW B2AE BSBW A9 A8 A7
CS10 CS00 MFY3 MY3 MY2 MY1 MY0 Y3 Y2 Y1 Y0 V00 V00 GN0 GN0 CS2B CRB CS1B BCBB BCGB BCRB
TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
TO SY-9 BOARD CN4
CN1
1 TxD
2 MMU ENABLE
3 RXD
4 SY ENABLE
5 M COLOR A
6 M COLOR B
7 RESET
8 GND
TP31
TP61
TP35
TP63
TP64
TP30
TP28
TP29
TP32
TP33
SL1
SL2
R9 10k
R36 1M
X2 20MHz
C16 33p
C17 33p
R40 10k
C25 1000p
FL6 FL7 FL8 FL9 FL10 FL11 FL12
LPF
P90 (AD)
P91 (DA)
P92
P93 (P.PRESE
P94 (P.PRESE
TXD (SYS.RXD
RXD (SYS.TXD
P97 (MMU.EN)
EXTAL
XTAL
VSS
φ.CLK
E.CLK
BACK
BREQ
P14 (WHITE)
IRQ0
IRQ1
P17
AS
VCC
(SEL1) P87
IC32 (2/4) SN74HC08NS
IC32 (3/4) SN74HC08NS
IC32 (4/4) SN74HC08NS
E M COLOR B
D M COLOR A
C B/A ON
A P PRESET B
B P PRESET A
J DATA ENABLE
Z WHITE
6 (H.BLK) SW0 H0L
46A/B ON

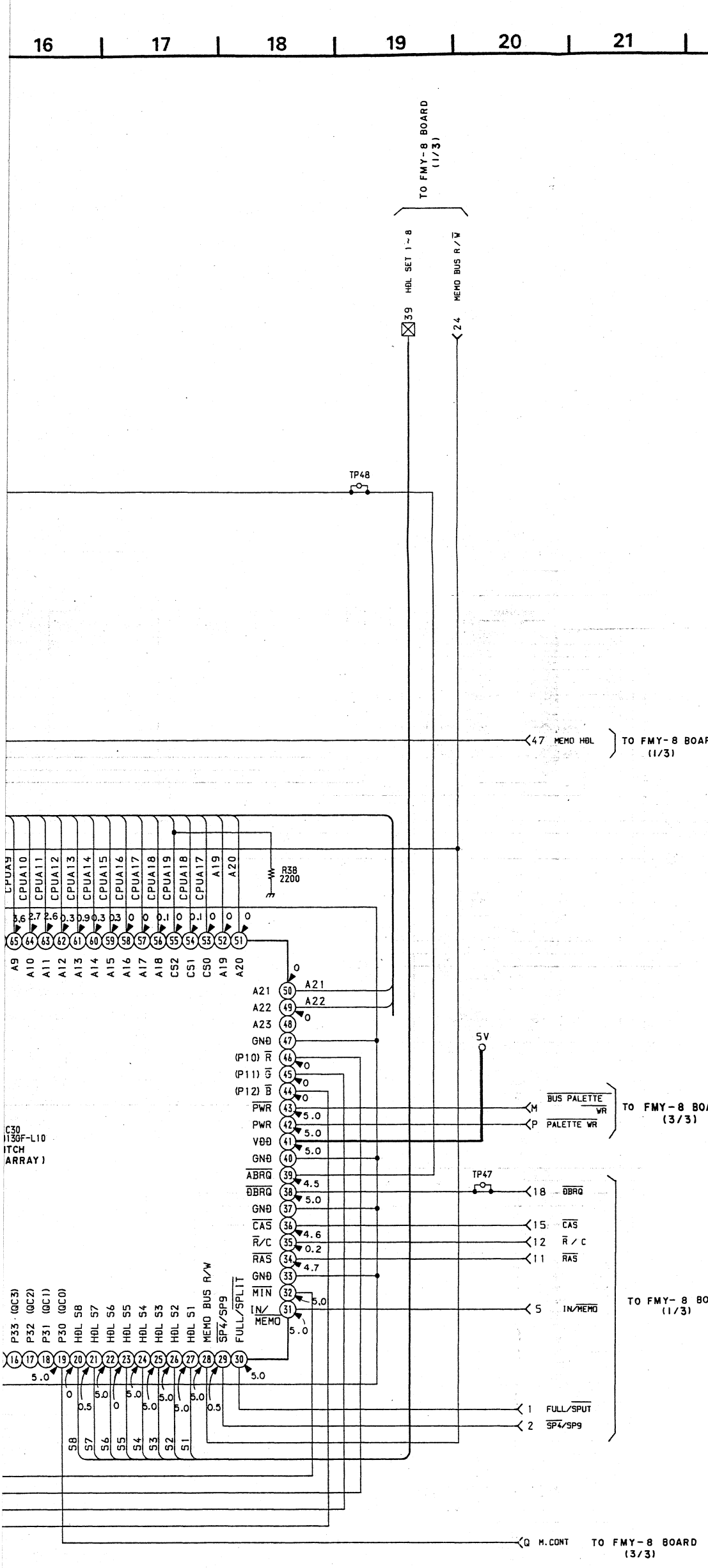
IC29
#P0650136F-407
SWITCH
(GATE ARRAY)

IC28
HD6475328F
H8/532
MICRO COMPUTER

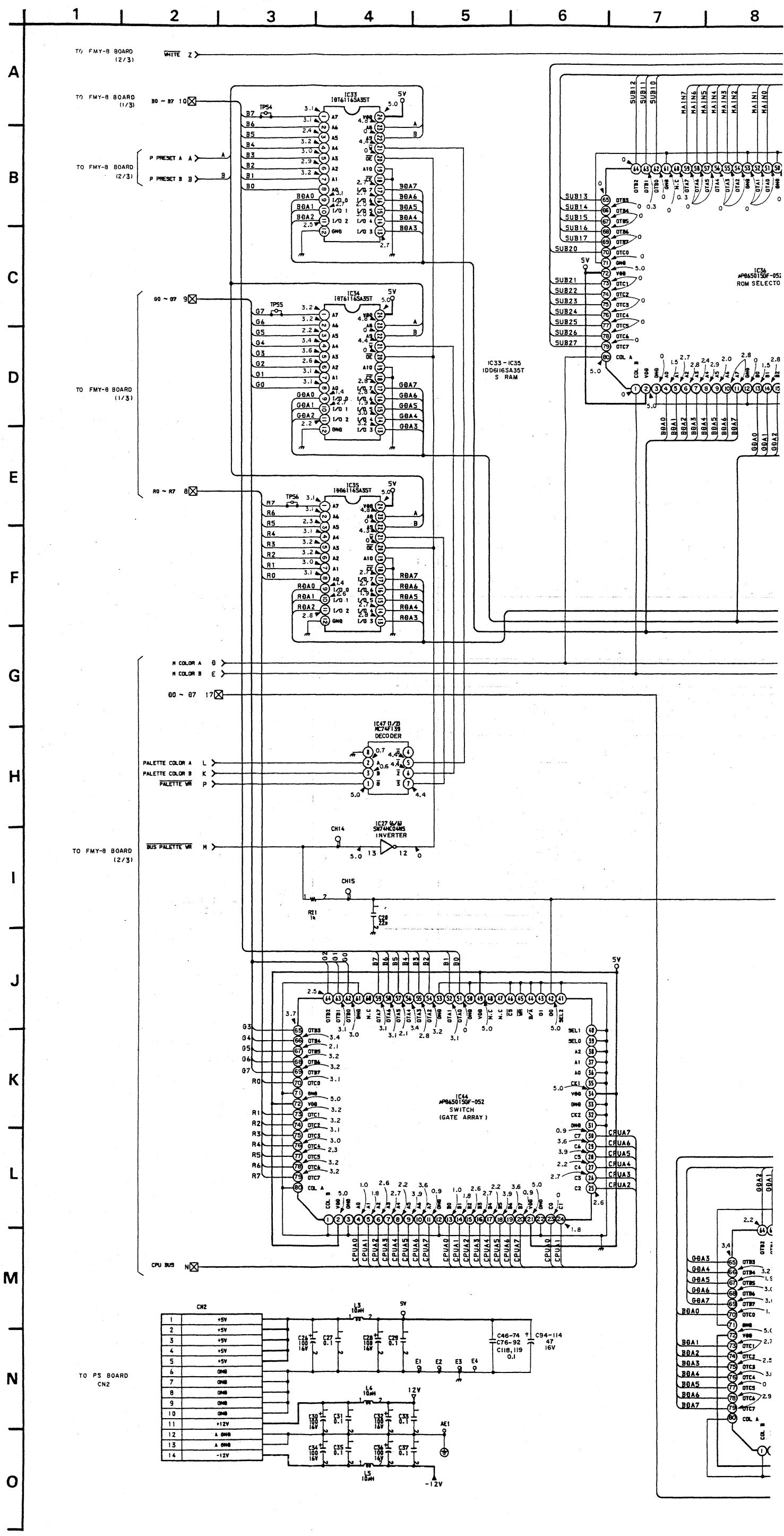
IC30
#P0650136F-L10
SWITCH
(GATE ARRAY)

TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
BUS COLOR R
BUS COLOR G
BUS COLOR B
C/R
A0~A9
CPU BUS
HOL ADJ 1~9
D0~D7
5V
CH4 CH5 CH6 CH7 CH8 CH9 CH10 CH11 CH12 CH13
R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 220
R9 10k
R10 10k
R55 10k
R56 10k
SL1
SL2
SL3
SL4
C18 0.1
C19 0.1
L1 100μH
R36 1M
X2 20MHz
C16 33p
C17 33p
R38 2200
R37 3300
TP27
TP40
TP41
TP42
TP44
TP45
TP46
TP50
TP51
TP52
TP53
IC32 (1/4)
SN74HC08NS
AND GATE
2.8Vp-p
20MHz
TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
PALETTE COLOR A
PALETTE COLOR B
WHITE
BLK
SW8
HBL


IC29
#P0650I3GF-407
SWITCH
(GATE ARRAY)
IC28
H06475328F
H8/532
MICRO COMPUTER
IC32 (1/4)
SN74HC08NS
AND GATE
IC30
#P0650I3GF
SWITCH
(GATE ARR
TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
TO FMY-8 BOARD (3/3)
TO FMY-8 BOARD (1/3)
TO FMY-8 BOARD (3/3)
BUS COLOR R
BUS COLOR G
BUS COLOR B
C/R
A0 ~ A9
CPU BUS
HBL ADJ 1 ~ 9
D0~D7
M COLOR B
M COLOR A
DATA ENABLE
P PRESET B
P PRESET A
CB/A ON
R/G/B ON
WHITE
BLK SWD HBL
PALETTE COLOR B
PALETTE COLOR A
2.8Vp-p
20MHz
X2
20MHz
R36 1M
R40 10k
C25 1000p
C16 33p
C17 33p
L1 100μH
C18 0.1
C19 0.1
R9 10k
R10 10k
R55 10k
R56 10k
R11 220
R12 220
R13 220
R14 220
R15 220
R16 220
R17 220
R18 220
R19 220
R20 220
R37 3300
LPF
FL7
FL8
FL9
FL10
TP27
TP28
TP29
TP30
TP31
TP32
TP33
TP35
TP40
TP41
TP42
TP44
TP45
TP46
TP50
TP51
TP52
TP53
TP61
TP63
TP64
SL1
SL2
SL3
SL4


16 17 18 19 20 21 22
TO FMY-8 BOARD (1/3)
HBL SET 1~8
MEMO BUS R/W
39
24
TP48
47 MEMO HBL
TO FMY-8 BOARD (1/3)
R38 2200
CPUA9 CPUA10 CPUA11 CPUA12 CPUA13 CPUA14 CPUA15 CPUA16 CPUA17 CPUA18 CPUA19 CPUA18 CPUA17 A19 A20
3.6 2.7 2.6 0.3 0.9 0.3 0.3 0 0 0.1 0 0.1 0 0 0
65 64 63 62 61 60 59 58 57 56 55 54 53 52 51
A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 CS2 CS1 CS0 A19 A20
0
A21 50 A21
A22 49 A22
0
A23 48
GND 47
(P10) R 46 0
(P11) G 45 0
(P12) B 44 0
PWR 43 5.0
PWR 42 5.0
VDD 41 5.0
GND 40
ABRQ 39 4.5
DBRQ 38 5.0
GND 37
CAS 36 4.6
R/C 35 0.2
RAS 34 4.7
GND 33
MIN 32 5.0
IN/MEMO 31 5.0
SP4/SP9 29
FULL/SPLIT 30
5V
BUS PALETTE WR
M
P PALETTE WR
TO FMY-8 BOARD (3/3)
TP47
18 DBRQ
15 CAS
12 R/C
11 RAS
5 IN/MEMO
TO FMY-8 BOARD (1/3)
1 FULL/SPUT
2 SP4/SP9
P33 (QC3) P32 (QC2) P31 (QC1) P30 (QC0) HBL S8 HBL S7 HBL S6 HBL S5 HBL S4 HBL S3 HBL S2 HBL S1 MEMO BUS R/W SP4/SP9 FULL/SPLIT
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
5.0 0 0.5 5.0 0 5.0 5.0 5.0 5.0 0.5 5.0
S8 S7 S6 S5 S4 S3 S2 S1
Q M.CONT
TO FMY-8 BOARD (3/3)

FMY-8 — 3/3 — (FRAME MEMORY)



IC36
μPB650150F-052
ROM SELECTOR

IC37
MASKROM37
MASK ROM

IC38
MASKROM38
MASK ROM

IC48
MASKROM48
MASK ROM(L)

IC49
μPB65B0668B-571
DATA
PROCESSER

IC40
SN74HC541

IC41
SN74HC541

IC42
SN74HC541

IC40 – IC42
LINE BUFFER

IC44
CXA1240Q
D/A CONVERTER

IC45
μPB650158F-052
SWITCH
(GATE ARRAY)

IC27 (3/6)
SN74HC04NS

IC27 (4/6)
SN74HC04NS

IC27 (5/6)
SN74HC04NS

IC47 (2/2)
MC74F139

R-BUS
G-BUS
B-BUS

3 4 5 6 7 8 9 10 11 12 13 14

IC33 IDT61165A35T S RAM
IC34 IDT61165A35T S RAM
IC35 IDT61165A35T S RAM
IC33 – IC35 IDD6116SA35T S RAM
IC36 μPB6501SGF-052 ROM SELECTOR
IC37 MASKROM37 MASK ROM
IC38 MASKROM38 MASK ROM
IC40 SN74HC541
IC41 SN74HC541
IC42 SN74HC541
IC40 – IC42 LINE BUFFER
IC44 μPB6501SGF-052 SWITCH (GATE ARRAY)
IC45 μPB6501SGF-052 SWITCH (GATE ARRAY)
IC46 CXA1286 D/A CONVE
IC47 11/12 MC74F139 DECODER
IC27 16/17 SN74HC04NS INVERTER
R-BUS
G-BUS
B-BUS

IC48
MASKROM48
MASK ROM(L)

IC39
SN74HC574NS
LATCH

IC49
μPD65006GB-571
DATA
PROCESSER

IC46
CXA1240Q
D/A CONVERTER

CN3
TO SY-9 BOARD
CN5

IC27(2/6)
SN74HC04NS
INVERTER

TO FMY-8 BOARD
(2/3)

TO VA-26 BOARD
W4

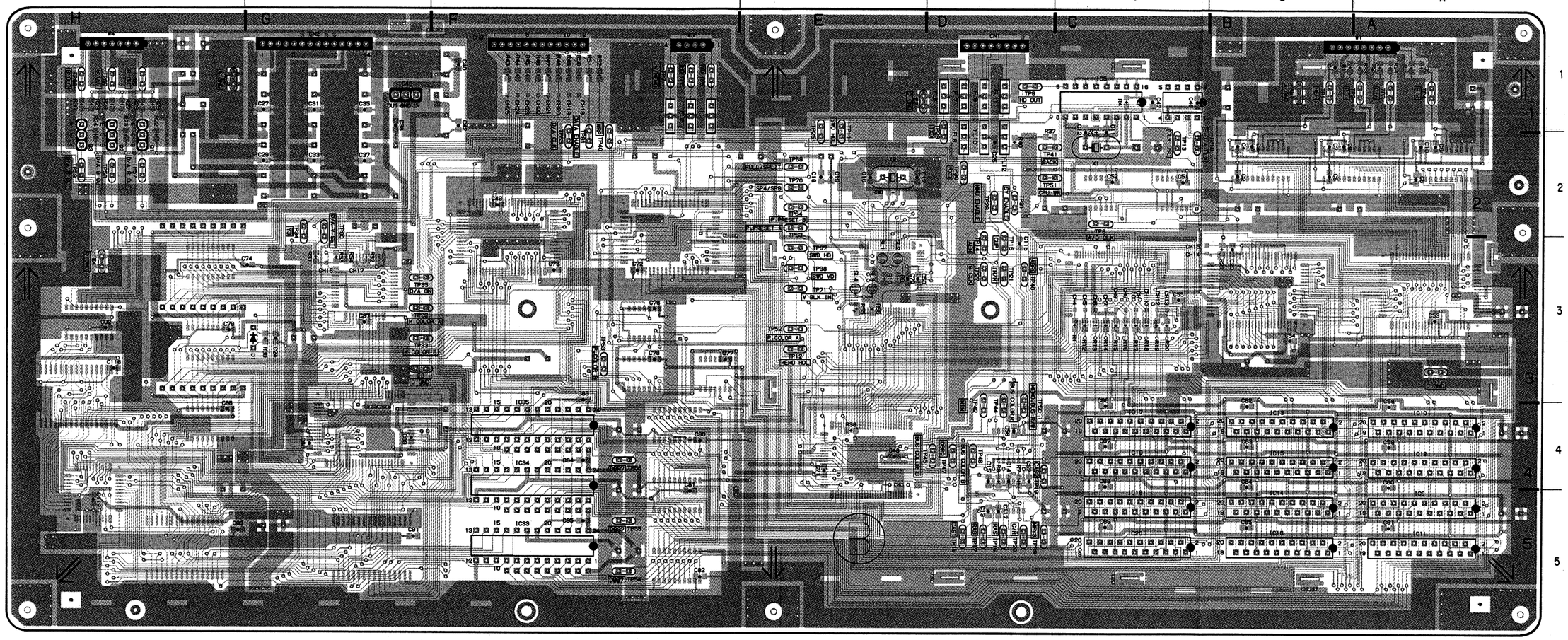
IC43
μPC78N05H
+12V REG

TO FMY-8 BOARD
(1/3)

IC27(1/6)
SN74HC04NS

IC47(2/2)
MC74F139

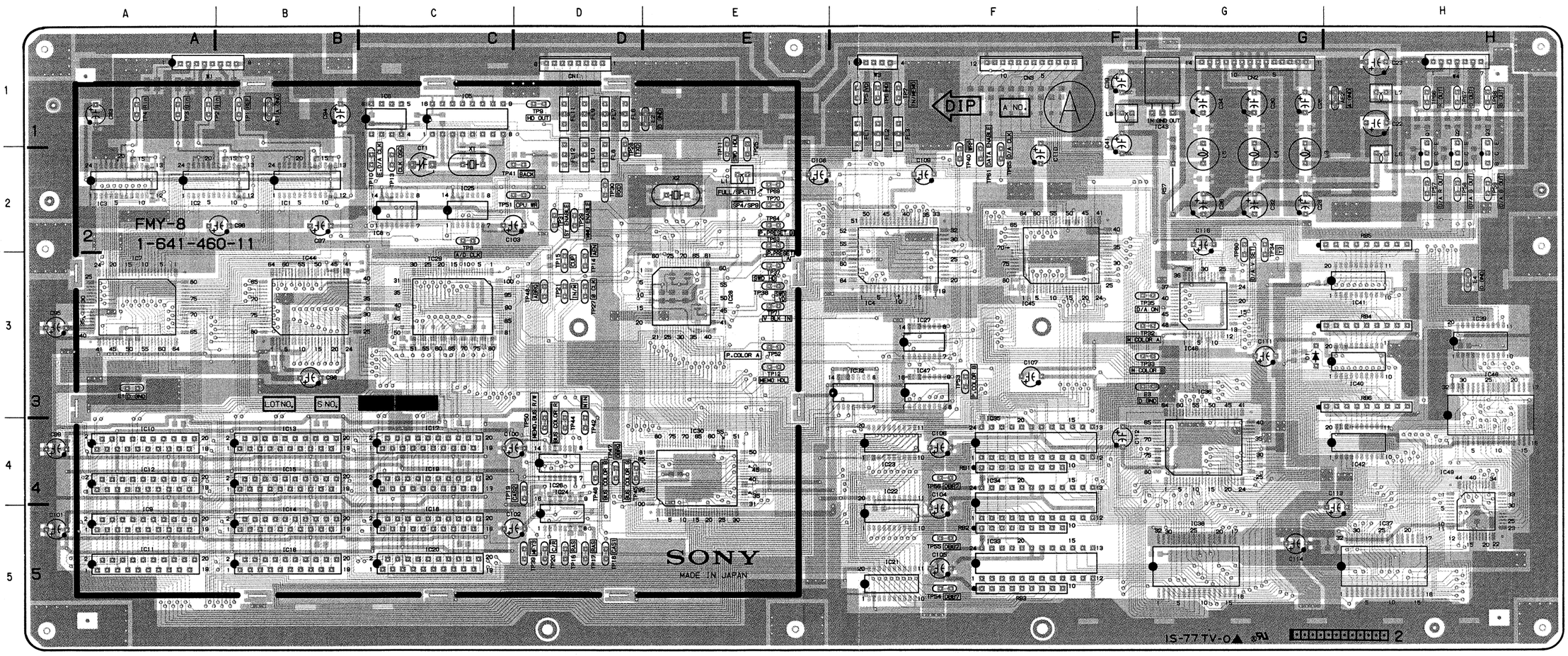
FMY-8 (FRAME MEMORY)



FMY-8 –SOLDERING SIDE–
1-641-460-11
UP-5200MD
UP-5250MD

FMY-8 Board

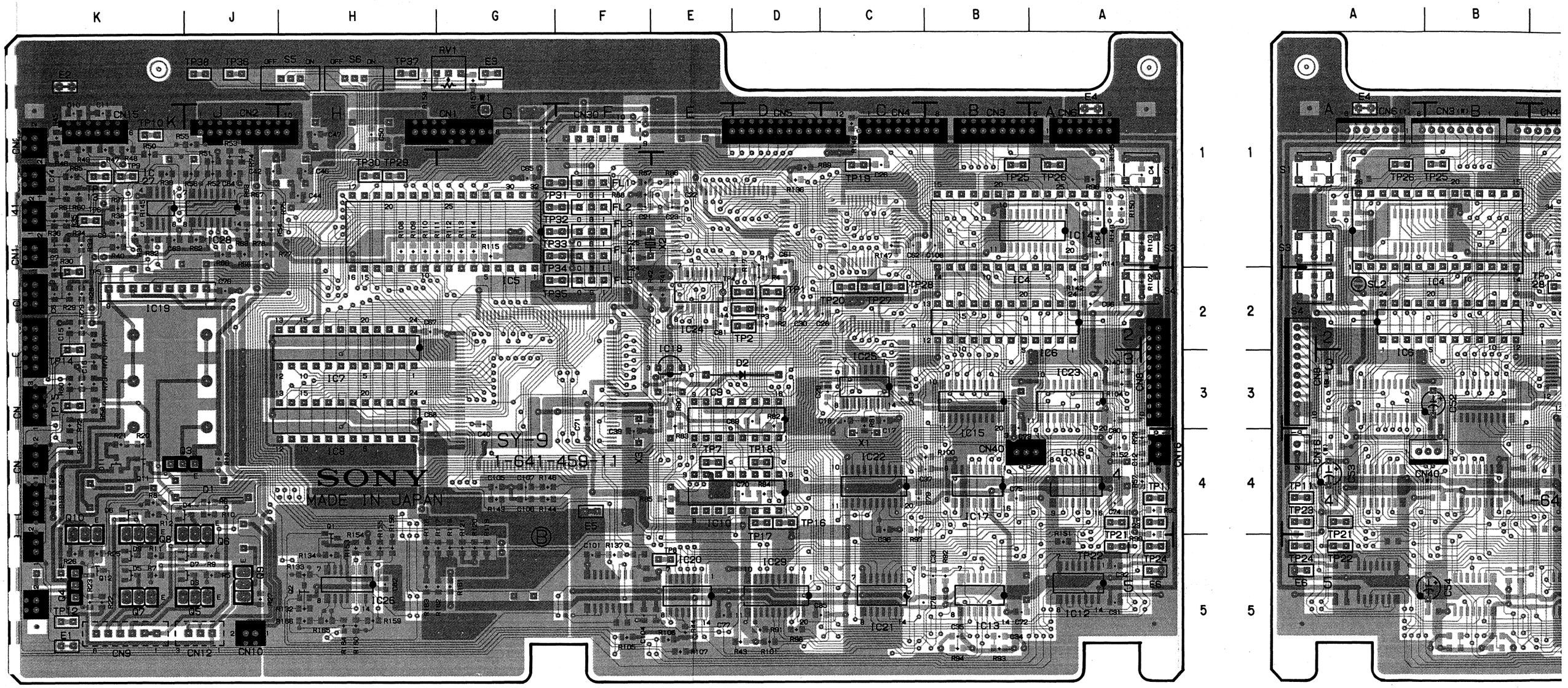
CN1	D-1	IC8	C-2	IC39	H-3	L8	F-1	TP7	F-1	TP29	D-2	TP50	D-4	TP69	E-2
CN2	G-1	IC21	F-5	IC40	H-3	Q1	H-2	TP8	C-2	TP30	D-2	TP51	C-2	TP70	E-2
CN3	F-1	IC22	F-4	IC41	H-3	Q2	H-2	TP9	D-1	TP31	D-2	TP52	E-3	TP71	E-3
		IC23	F-4	IC42	H-4	Q3	H-2	TP10	C-2	TP32	G-3	TP53	F-3		
CT1	C-2	IC24	D-4	IC43	G-1			TP11	E-2	TP33	G-3	TP54	F-5	W1	A-1
		IC25	C-2	IC44	B-3	RB1	F-4	TP12	E-3	TP34	G-1	TP55	F-5	W3	F-1
E1	A-3	IC26	D-4	IC45	F-3	RB2	F-5	TP13	C-2	TP35	G-3	TP56	F-4	W4	H-1
E2	E-1	IC27	F-3	IC46	G-3	RB3	F-5	TP14	D-3	TP37	E-3	TP57	H-2		
E3	G-3	IC28	E-3	IC47	F-3	RB4	H-3	TP15	D-3	TP38	E-3	TP58	H-2	X1	C-2
E4	H-3	IC29	C-3	IC48	H-3	RB5	H-2	TP16	D-5	TP39	D-5	TP59	H-2	X2	E-2
		IC30	E-4	IC49	H-4	RB6	H-3	TP17	D-5	TP40	F-2	TP60	G-1		
IC1	B-2	IC32	F-3					TP18	D-5	TP41	C-2	TP61	F-2		
IC2	A-2	IC33	F-5	L1	E-2	TP1	B-1	TP19	C-4	TP42	D-4	TP63	E-2		
IC3	A-2	IC34	F-4	L3	G-2	TP2	B-1	TP20	D-5	TP44	D-4	TP64	E-2		
IC4	F-3	IC35	F-4	L4	G-2	TP3	A-1	TP21	D-3	TP45	D-4	TP65	F-2		
IC5	C-1	IC36	G-3	L5	G-5	TP4	A-1	TP25	D-3	TP46	D-4	TP66	H-1		
IC6	C-1	IC37	H-5	L6	H-2	TP5	F-1	TP27	D-3	TP47	D-4	TP67	H-1		
IC7	A-3	IC38	G-5	L7	H-1	TP6	F-1	TP28	D-2	TP48	D-3	TP68	H-1		



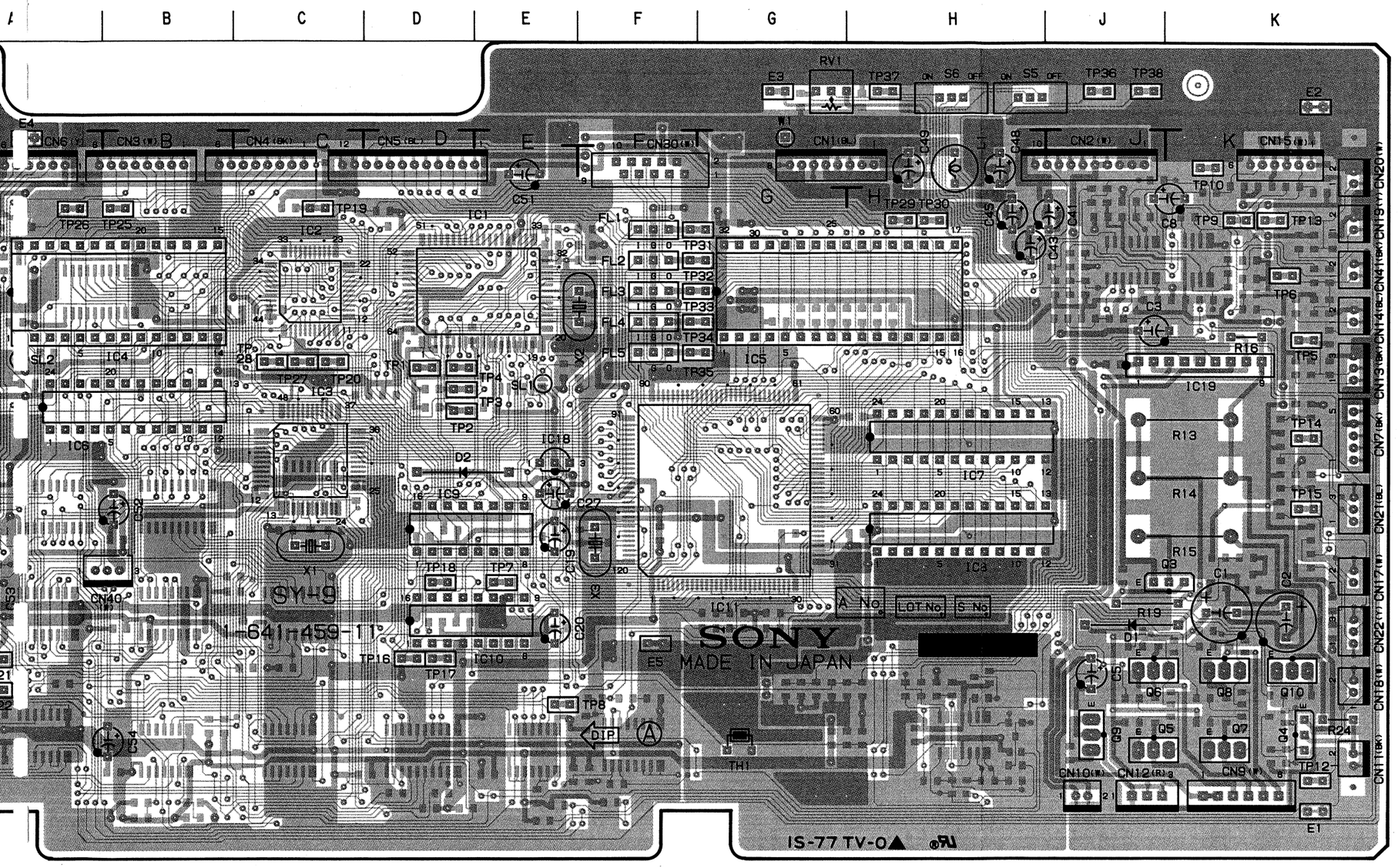
FMY-8 – COMPONENT SIDE
1-641-460-11
UP-5200MD
UP-5250MD

● : Conductor side pattern
● : Component side pattern

SY-9 (SERVO/SYSTEM CONTROL)



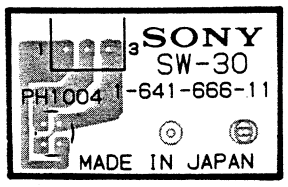
SY-9 —SOLDERING SIDE—
1-641-459-11
UP-5200MD
UP-5250MD



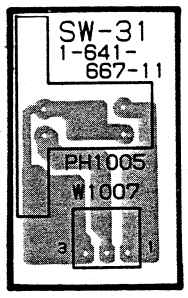
SY-9 —COMPONENT SIDE—
1-641-459-11
UP-5200MD
UP-5250MD

- : Conductor side pattern
- : Component side pattern

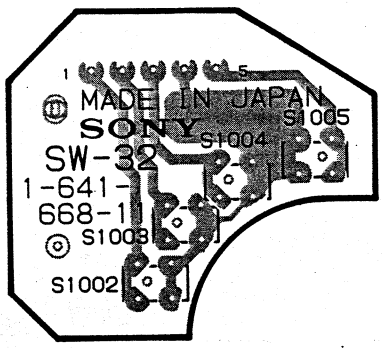
SY-9	Board						
CN1	G-1		IC20	E-5	S	TP32	G-1
CN2	J-1		IC21	C-5	S	TP33	G-1
CN3	B-1		IC22	C-4	S	TP34	G-1
CN4	C-1		IC23	A-3	S	TP35	G-2
CN5	D-1		IC24	E-2	S	TP36	J-1
CN6	A-1		IC25	C-3	S	TP37	H-1
CN7	K-2		IC26	H-5	S	TP38	J-1
CN8	A-3		IC27	K-1	S		
CN9	K-5		IC28	J-1	S	W1	G-1
CN10	J-5		IC29	D-5	S		
CN11	K-5					X1	C-4
CN12	J-5		L1	H-1		X2	F-1
CN13	K-2					X3	F-4
CN14	K-1		Q1	H-4	S		
CN15	K-1		Q2	H-5	S		
CN16	A-4		Q3	K-4			
CN17	K-4		Q4	K-5			
CN18	K-5		Q5	J-5			
CN19	K-1		Q6	J-5			
CN20	K-1		Q7	K-5			
CN21	K-3		Q8	K-5			
CN22	K-4		Q9	J-5			
CN30	F-1		Q10	K-5			
CN40	B-4		Q11	K-4	S		
CN41	K-1		Q12	K-5	S		
D1	J-4		RV1	G-1			
D2	D-3						
D3	K-5	S	S1	A-1			
D4	K-4	S	S3	A-1			
D5	K-5	S	S4	A-2			
D6	K-4	S	S5	H-1			
D7	K-5	S	S6	H-1			
D9	K-5	S					
D11	K-4	S	TH1	G-5			
E1	K-5		TP1	D-2			
E2	K-1		TP2	D-2			
E3	G-1		TP3	D-2			
E4	A-1		TP4	D-2			
E5	F-4		TP5	K-2			
E6	A-5		TP6	K-1			
			TP7	F-4			
FL1	F-1		TP8	E-5			
FL2	F-1						
FL3	F-1		TP9	K-1			
FL4	F-1		TP10	K-1			
FL5	F-2		TP11	A-4			
			TP12	K-5			
IC1	E-1		TP13	K-1			
IC2	C-1		TP14	K-2			
IC3	C-3		TP15	K-3			
IC4	B-1		TP16	D-4			
IC5	G-1		TP17	D-4			
IC6	B-2		TP18	D-4			
IC7	H-2		TP19	C-1			
IC8	H-3		TP20	C-1			
IC9	D-3		TP21	A-4			
IC10	E-4		TP22	A-5			
IC11	G-3		TP23	A-4			
IC12	A-5	S	TP24	A-5			
IC13	B-5	S	TP25	B-1			
IC14	A-1	S	TP26	A-1			
IC15	B-3	S	TP27	C-1			
IC16	A-4	S	TP28	C-1			
IC17	B-4	S	TP29	H-1			
IC18	E-3		TP30	H-1			
IC19	K-2		TP31	G-1			



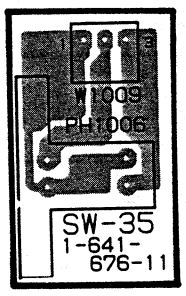
SW-30 –SOLDERING SIDE–
1-641-666-11
UP-5200MD
UP-5250MD



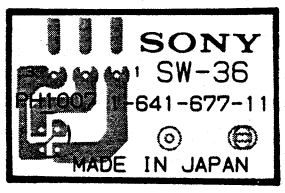
SW-31 –SOLDERING SIDE–
1-641-667-11
UP-5200MD
UP-5250MD



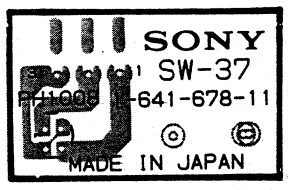
SW-32 –SOLDERING SIDE–
1-641-668-11
UP-5200MD
UP-5250MD



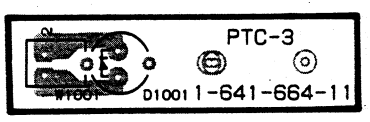
SW-35 –SOLDERING SIDE–
1-641-676-11
UP-5200MD
UP-5250MD



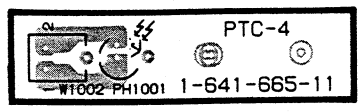
SW-36 –SOLDERING SIDE–
1-641-677-11
UP-5200MD
UP-5250MD



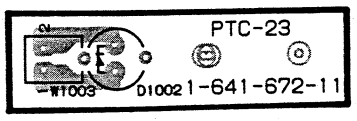
SW-37 –SOLDERING SIDE–
1-641-678-11
UP-5200MD
UP-5250MD



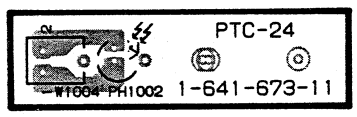
PTC-3 –SOLDERING SIDE–
1-641-664-11
UP-5200MD
UP-5250MD



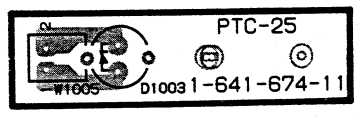
PTC-4 –SOLDERING SIDE–
1-641-665-11
UP-5200MD
UP-5250MD



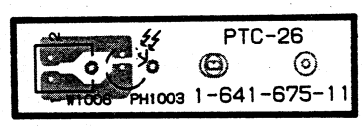
PTC-23 –SOLDERING SIDE–
1-641-672-11
UP-5200MD
UP-5250MD



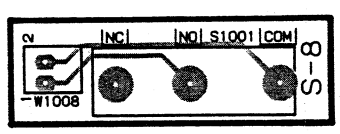
PTC-24 –SOLDERING SIDE–
1-641-673-11
UP-5200MD
UP-5250MD



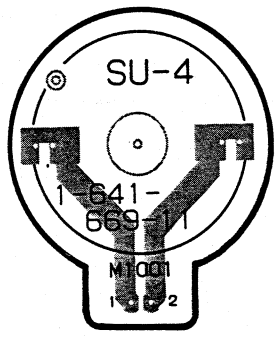
PTC-25 –SOLDERING SIDE–
1-641-674-11
UP-5200MD
UP-5250MD



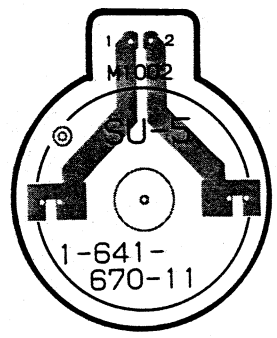
PTC-26 –SOLDERING SIDE–
1-641-675-11
UP-5200MD
UP-5250MD



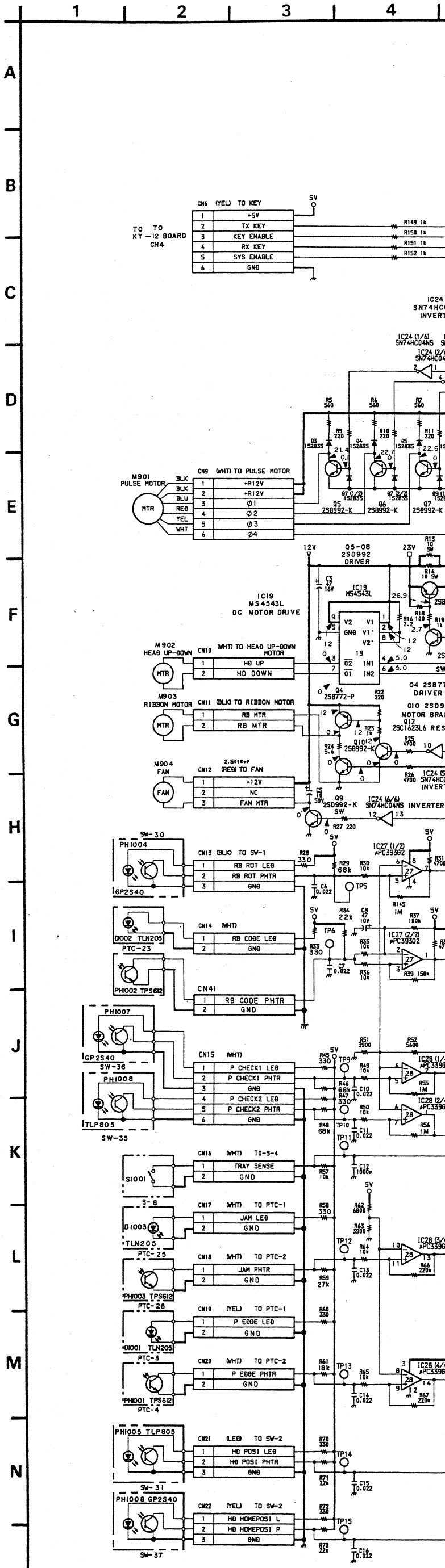
S-8 –SOLDERING SIDE–
1-641-671-11
UP-5200MD
UP-5250MD



SU-4 –SOLDERING SIDE–
1-641-669-11
UP-5200MD
UP-5250MD



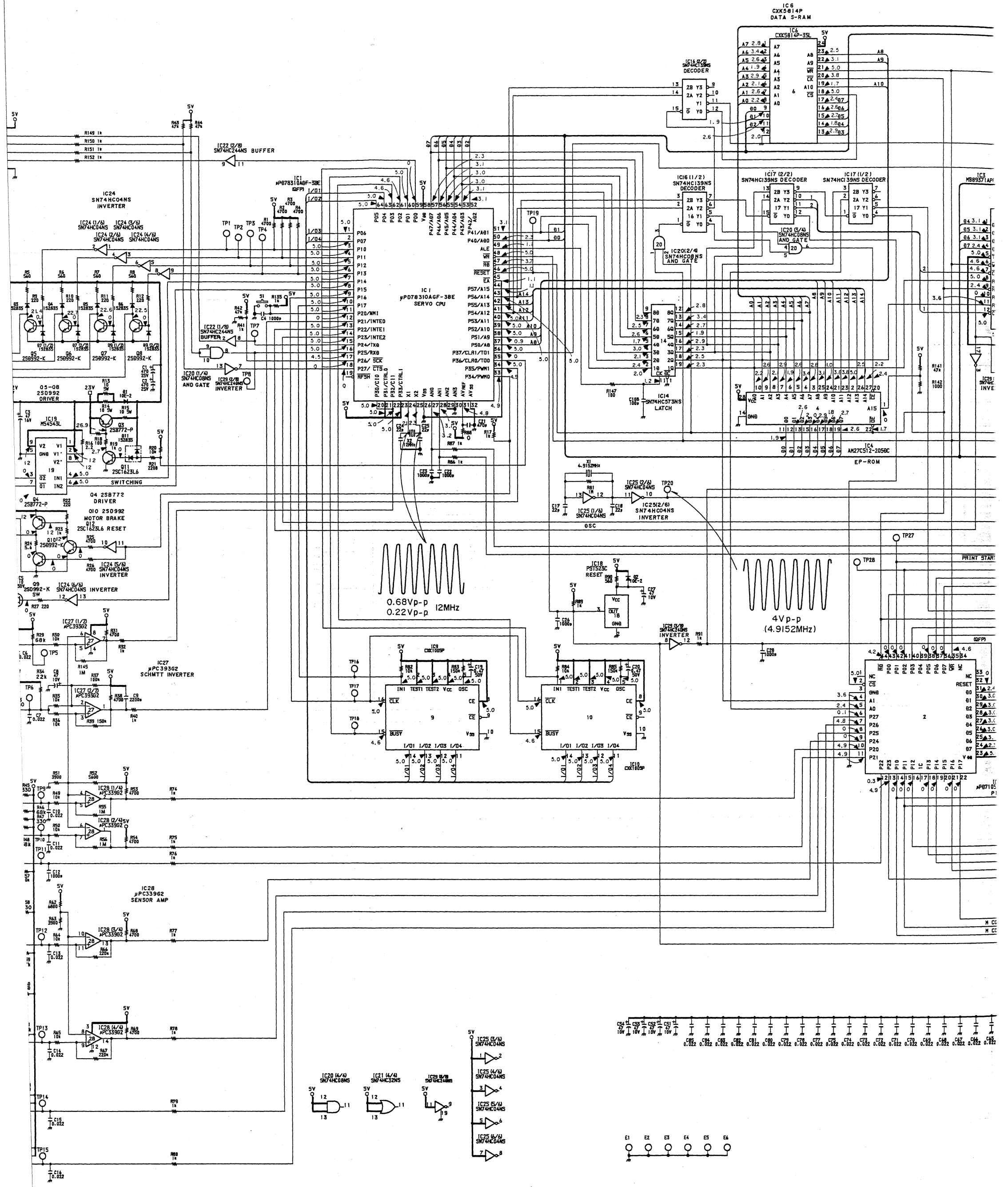
SU-5 –SOLDERING SIDE–
1-641-670-11
UP-5200MD
UP-5250MD



SW-32 (CASSETTE SW) SW-35 (P CHECK2 SENSOR) SW-36 (P CHECK1 SENSOR) SW-37 (HD HOME POSITION SENSOR) PTC-3 (P EDGE LED) PTC-4 (P ED(

MOTOR) SU-5 (HD UP/DOWN MOTOR)

4 5 6 7 8 9 10 11 12 13 14 15



SW-30 (RB ROT SENSOR) SW-31 (HD POSITION SENSOR) SW-32 (CASSETTE SW) SW-35 (P CHECK2 SENSOR) SW-36 (P CHECK1 SENSOR) SW-37 (HD HO

LED) PTC-26 (JAM SENSOR) S-8 (TRAY SENSOR) SU-4 (RB MOTOR) SU-5 (HD UP/DOWN MOTOR)

PTC-4
1-641-665-11

-4 –SOLDERING SIDE–
65-11
0MD
0MD

PTC-23
0021-641-672-11

-23 –SOLDERING SIDE–
-11
MD
MD

PTC-24
2 1-641-673-11

-24 SOLDERING SIDE–
3-11
MD
MD

PTC-25
003 1-641-674-11

-25 SOLDERING SIDE–
I-11
MD
MD

PTC-26
003 1-641-675-11

-26 SOLDERING SIDE–
5-11
MD
MD

S1001 COM
S-8

8 – LDERING SIDE–
41-671-
5200MD
5250MD

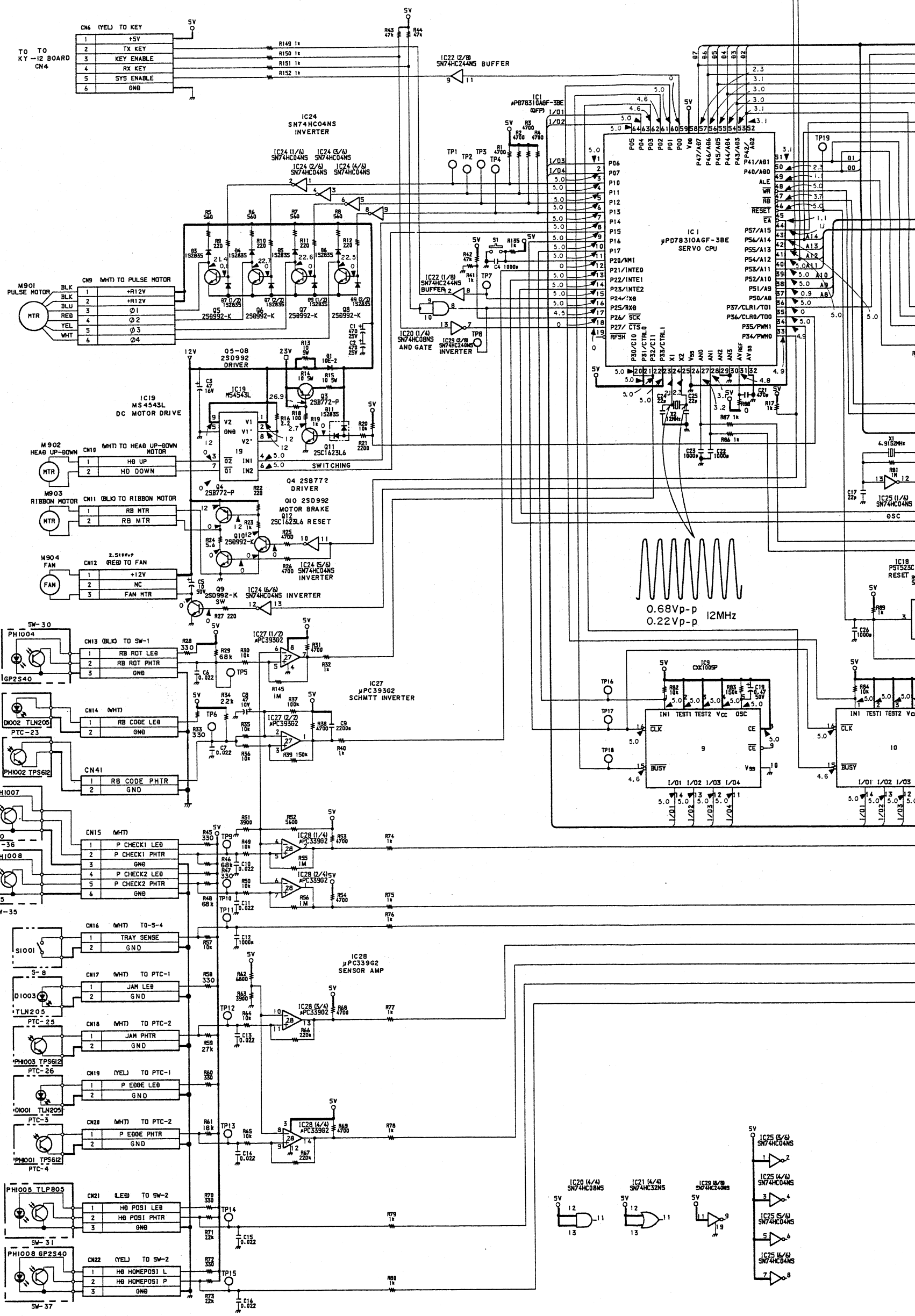
-4

.DER G SIDE–

.DER G SIDE–

1 2 3 4 5 6 7 8 9 10

A B C D E F G H I J K L M N O



D HOME POSITION SENSOR) PTC-3 (P EDGE LED) PTC-4 (P EDGE SENSOR) PTC-23 (RB CODE LED)

11 12 13 14 15 16 17 18 19 20 21 22

IC6 CXK5814P DATA S-RAM

IC6 CXK5814P-35L

IC16 (2/2) SN74HC139NS DECODER

IC17 (2/2) SN74HC139NS DECODER

IC17 (1/2) SN74HC139NS DECODER

IC16 (1/2) SN74HC139NS DECODER

IC20 (3/4) SN74HC08NS AND GATE

IC20(2/4) SN74HC08NS AND GATE

IC14 SN74HC573NS LATCH

IC4 AM27C512-2056C EP-ROM

IC3 MB89371APF SIO

IC3 MB89371APF (QFP)

IC29 (4/8) SN74HC240NS INVERTER

IC29 (5/8) SN74HC240NS INVERTER

IC21 (2/4) SN74HC32NS OR GATE

IC29 (6/8) SN74HC240NS INVERTER

IC15 74HC573NS LATCH

IC22 (3/8) SN74HC244NS INVERTER

IC12 SN75188NS RS232C DRIVER

IC21(1/4) SN74HC32NS OR GATE

IC13 SN75189ANS RS232C DRIVER

IC22 (4/8) SN74HC244NS BUFFER

IC25 (2/6) SN74HC04NS

IC25(2/6) SN74HC04NS INVERTER

IC18 PST523C RESET

4Vp-p (4.9152MHz)

IC29 (8/8) SN74HC240NS INVERTER

IC21 (3/4) SN74HC32NS OR GATE

IC22 (5/8) SN74HC244NS BUFFER

IC23 SN74HC240NS LINE DRIVER

IC22 (6/8) SN74HC244NS BUFFER

IC29(7/8) SN74HC240NS INVERTER

IC22(7/8) SN74HC244NS BUFFER

IC22 (8/8) SN74HC244NS INVERTER

IC2 μPB7105GB-3B4 P10

IC19 CXK1005P

TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28

PRINT START

M COLOR B

M COLOR A

TO SY-9 BOARD (2/2)

ADDRESS 2/2

DATA 2/2

WR 2/2

CS 2/2

GAMMA 16

GAMMA 15

GAMMA 14

GAMMA 13

GAMMA 12

HEAD TEMP

ROOM TEMP

PRST BAR

TMG-P

RIBBON 1

RIBBON 2

PRINT BAR

TO IF-19 BOARD CN901

TO IF (RED) CN8	
TX DATA	1
RTS	2
RX DATA	3
CTS	4
DTR	5
DSR	6
BUSY	7
MIN	8
GND	9
GND	10

TO DSC-9 BOARD CN1204

(WHT) CN40	
FAN CONT	1
PRINT	2
GND	3

TO FMY-8 BOARD CN1

TO FMY (BLK) CN4	
TXD	1
MMU ENABLE	2
RXD	3
SYS ENABLE	4
M COLOR A	5
M COLOR B	6
RESET	7
GND	8

TO VA-26 BOARD CN501

TO (VA (DEC) (WHT) CN3	
SIGNAL 1	1
SIGNAL 2	2
SIGNAL 3	3
SRCE/THRU	4
RGB/YBIF	5
SIGNAL DETECT	6
H.T./NORM	7
GND	8

V CONT SW

M COLOR B

M COLOR A

RESET BAR

TO SY-9 BOARD (2/2)

TO SW-3 (BLK) CN7	
CASETTE SW0	1
CASETTE SW1	2
CASETTE SW2	3
CASETTE SW3	4
GND	5

SW-32

TO P.S (RED) CN1	
+5V	1
+5V	2
GND	3
GND	4
+12.5V	5
GND	6
-12.5V	7
GND	8

TO PS BOARD CN1

TO P.S (RED) CN2	
+12V	1
+12V	2
+12V	3
+8	4
+8	5
-8	6
GND	7
GND	8
V.CONT	9
GND	10

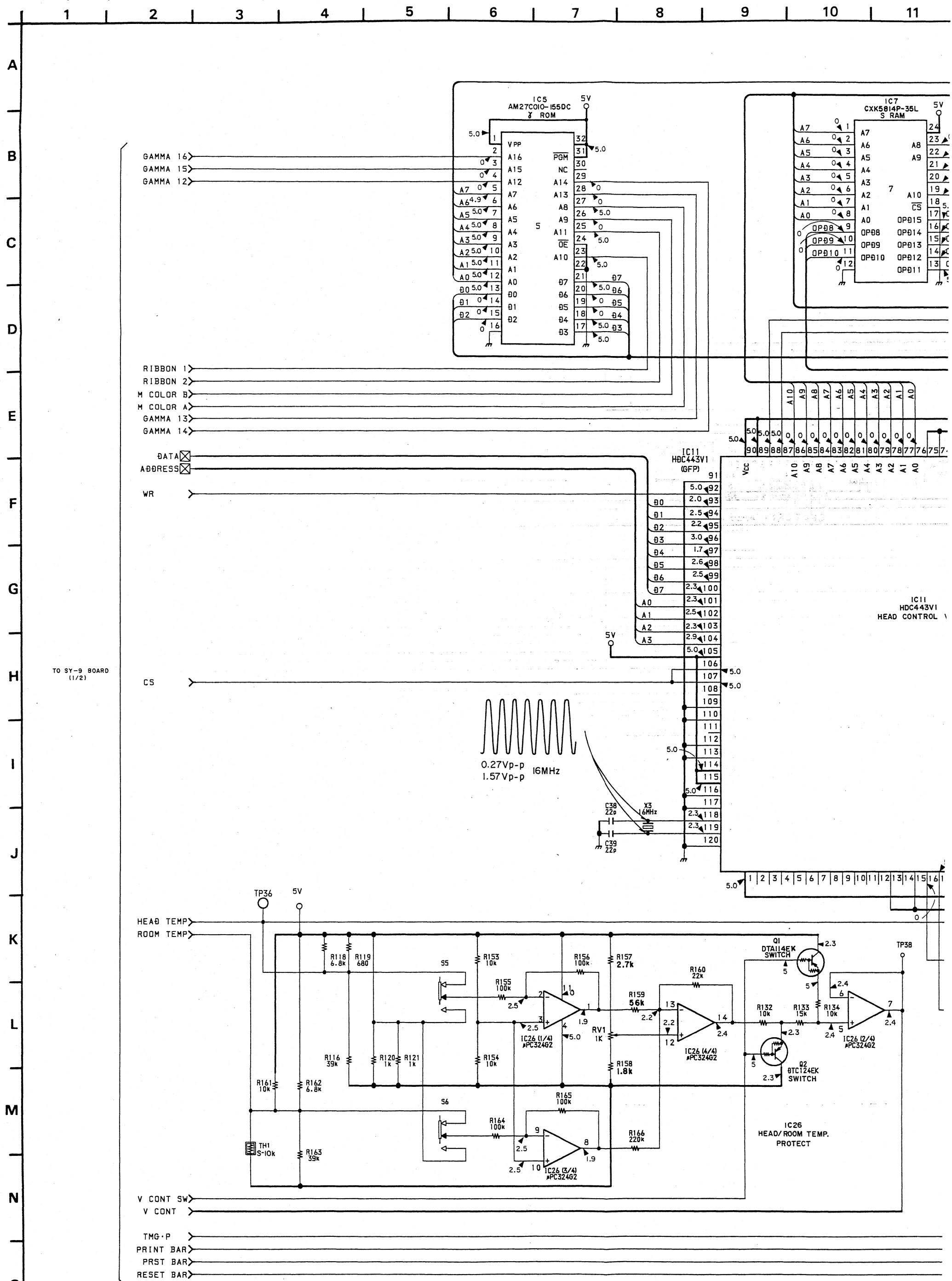
TO PS BOARD CN12

V CONT

TO SY-9 BOARD (2/2)

E1 E2 E3 E4 E5 E6

SY-9 — 2/2 — (SERVO/SYSTEM CONTROL)



IC7
CXK5814P-35L
S RAM

IC8
CXK5814P-35L
S RAM

IC11
HDC443V1
HEAD CONTROL VISI

TO FMY (RE0) CN5

A0	1
A1	2
A2	3
A3	4
A4	5
A5	6
A6	7
A7	8
DATA CLK	9
DATA EN	10
GND	11
GND	12

TO FMY-8 BOARD CN3

TO HEAD ストレートFPC CN30

GND	1
THERMISTER	2
THERMISTER	3
+5V	4
CLOCK	5
LATCH	6
DATA A	7
DATA B	8
DRIVE	9
GND	10

TO THERMAL HEAD

IC7
CXK5814P-35L
S RAM

IC8
CXK5814P-35L
S RAM

IC11
HDC443V1
(GFP)

IC11
HDC443V1
HEAD CONTROL VISI

IC26
HEAD/ROOM TEMP.
PROTECT

Q1
DTA114EK
SWITCH

Q2
DTC124EK
SWITCH

IC26 (4/4)
μPC324G2

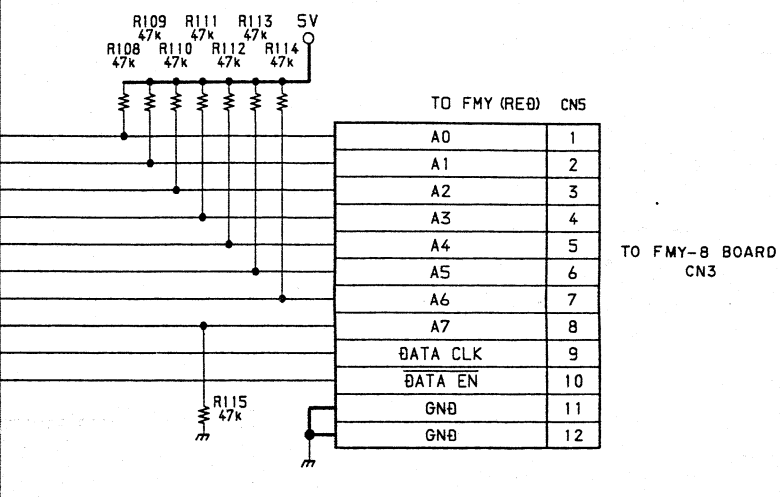
IC26 (2/4)
μPC324G2

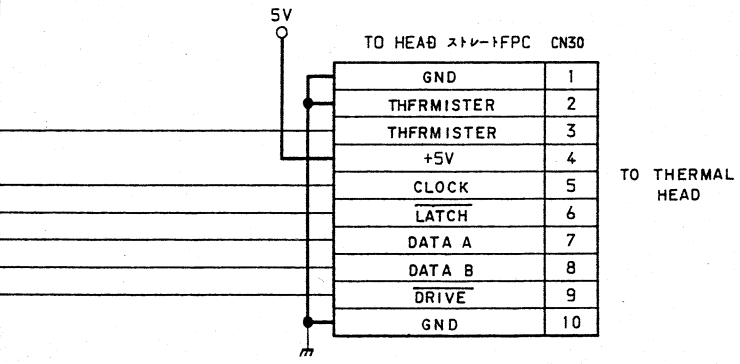
IC26 (3/4)
μPC324G2

X3
16MHz

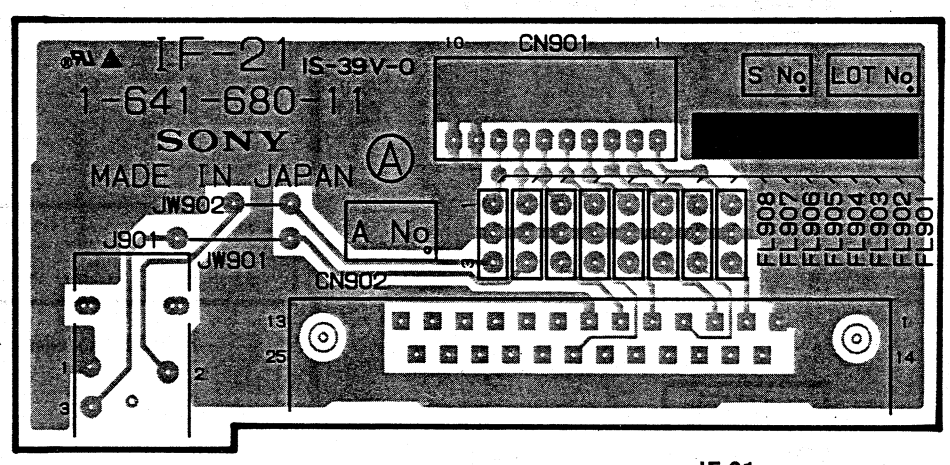
TP29
TP30
TP31
TP32
TP33
TP34
TP35
TP38

FL1
FL2
FL3
FL4
FL5
LPF

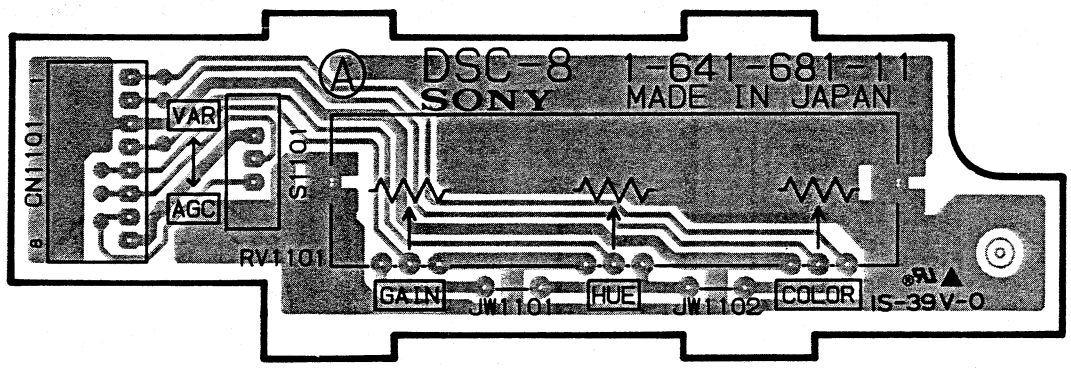




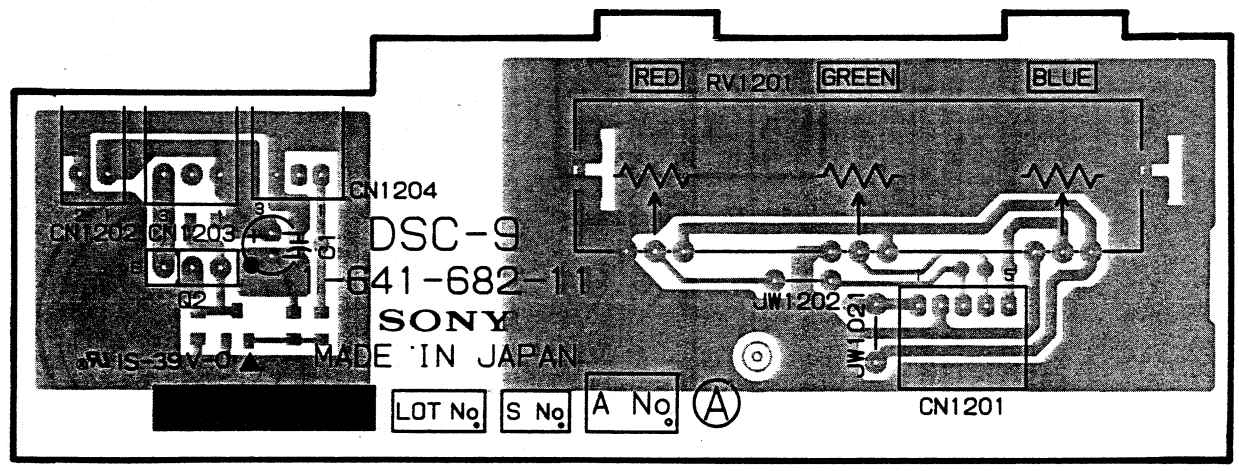
IF-21 (DATA INPUT/OUTPUT) DSC-8 (COLOR ADJUSTMENT) DSC-9 (R.G.B. ADJUSTMENT, FAN MOTOR DRIVE)



IF-21 –SOLDERING SIDE–
1-641-680-11
UP-5200MD
UP-5250MD



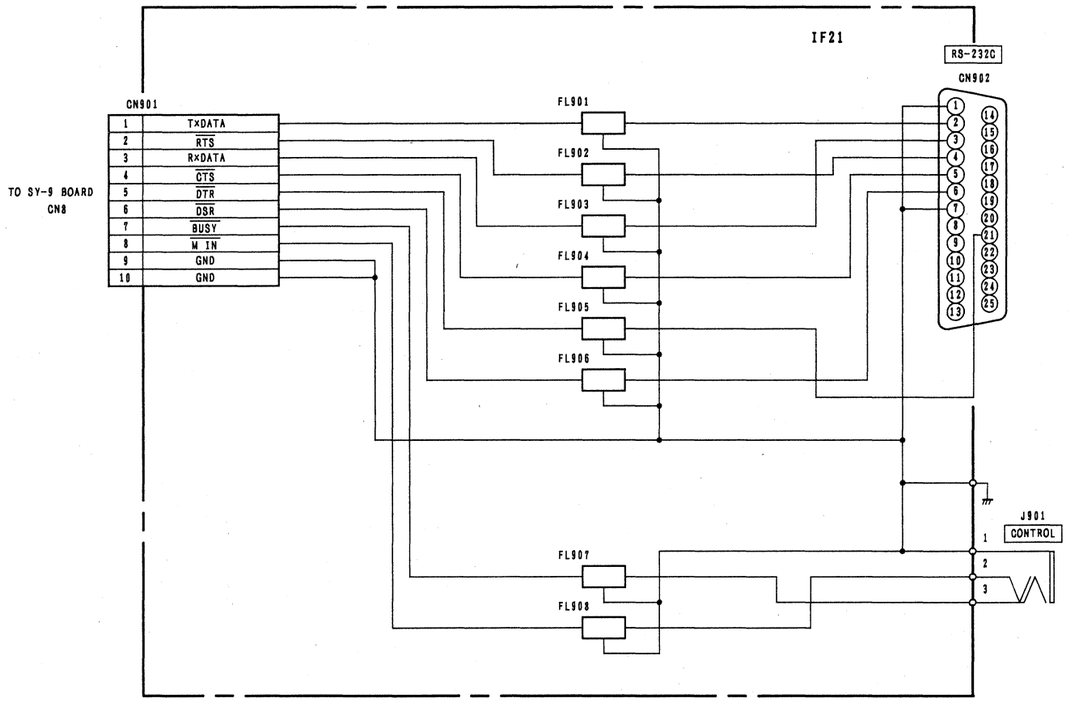
DSC-8 –SOLDERING SIDE–
1-641-681-11
UP-5200MD
UP-5250MD

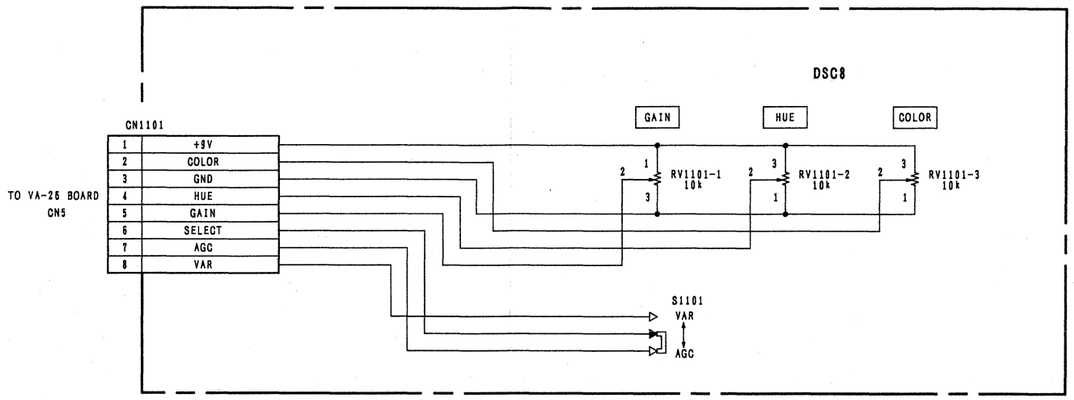


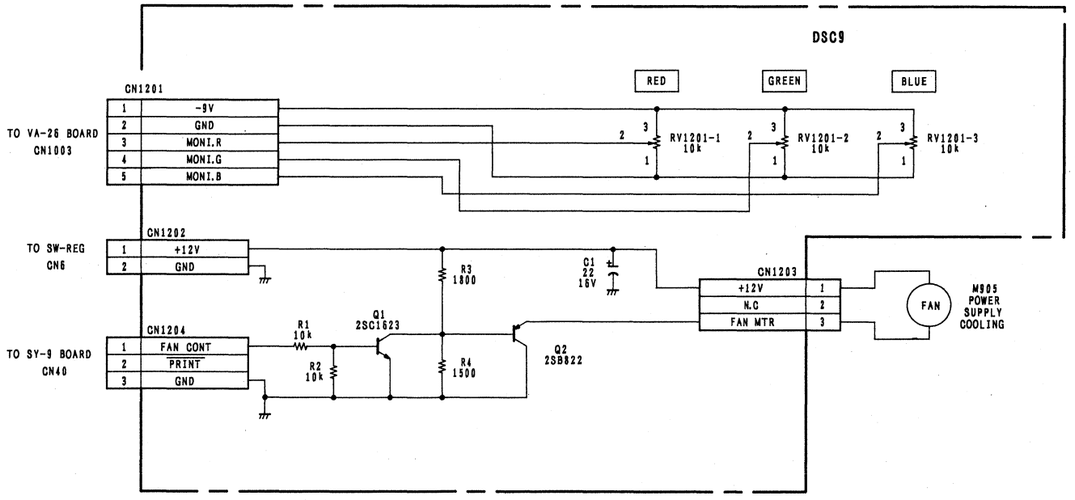
DSC-9 –SOLDERING SIDE–
1-641-682-11
UP-5200MD
UP-5250MD

SERVO/SYSTEM SY-9 | INTERFACE/ADJUSTMENT IF-21 DSC-8 DSC-9

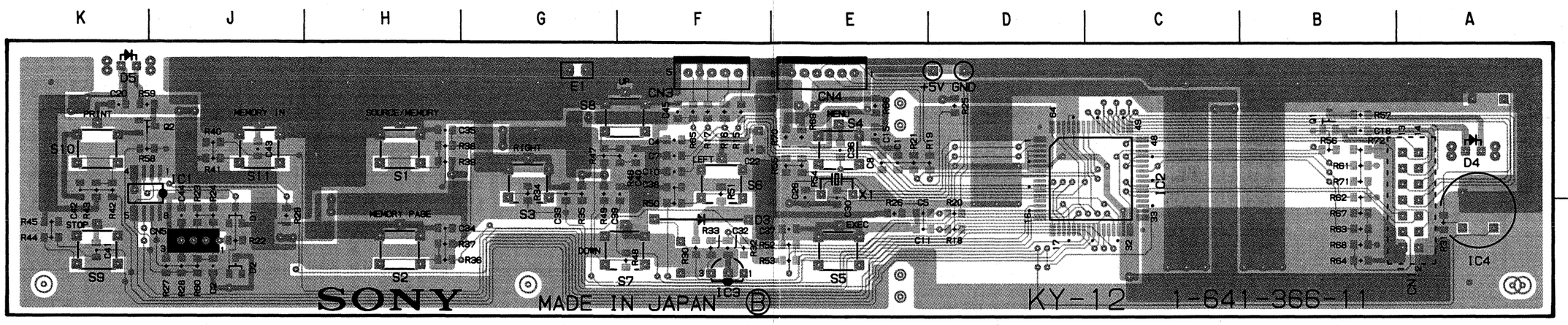
IF-21 (DATA INPUT/OUTPUT) DSC-8 (COLOR ADJUSTMENT) DSC-9 (R.G.B. ADJUSTMENT, FAN MOTOR DRIVE)







KY-12 (FUNCTION SW)



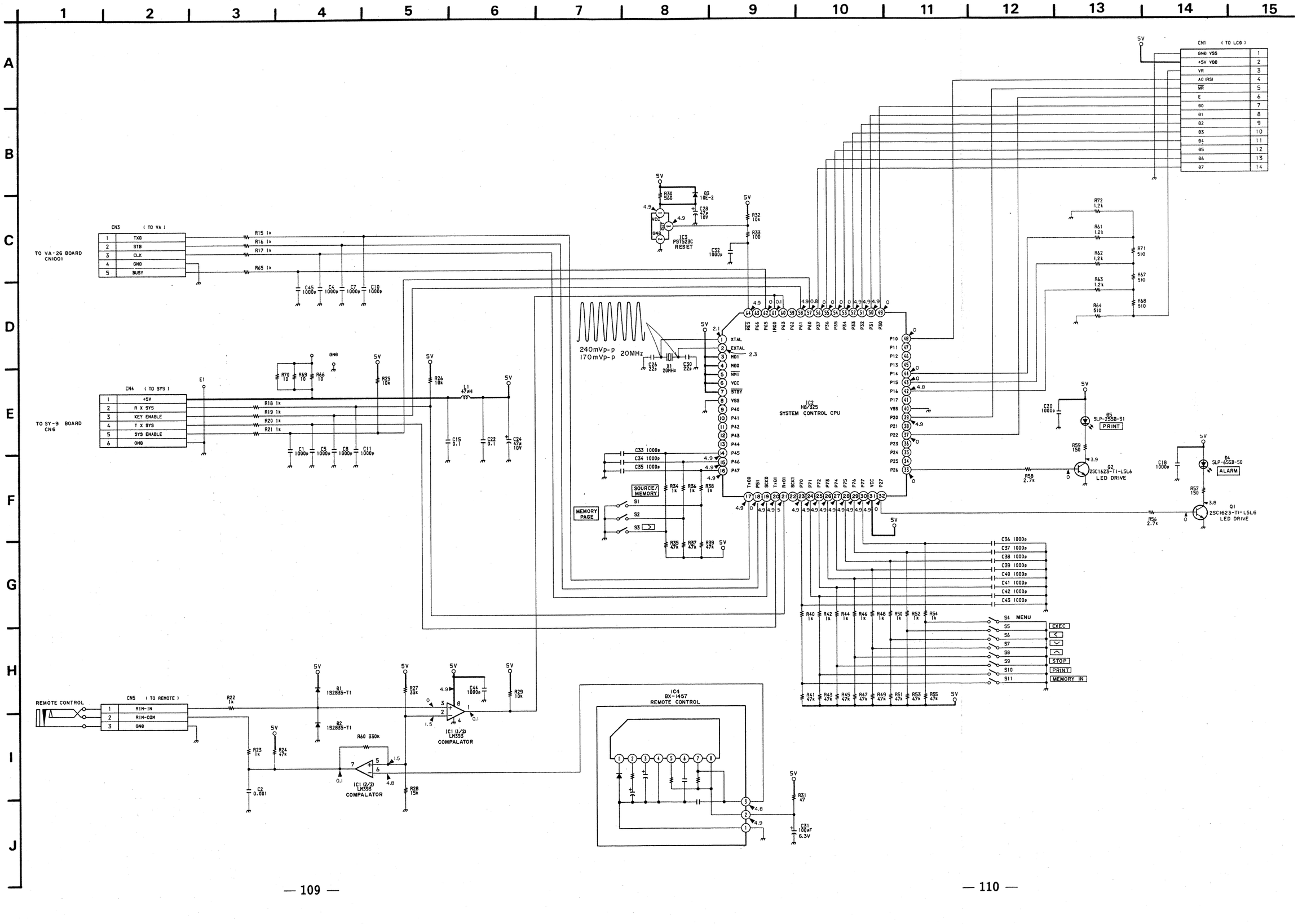
KY-12 Board

CN1	B-1	
CN3	F-1	
CN4	E-1	
CN5	J-2	
D1	J-2	S
D2	J-2	S
D3	F-2	
D4	A-1	
D5	K-1	
E1	G-1	
IC1	J-1	S
IC2	C-1	S
IC3	F-2	
IC4	A-2	
L1	E-1	
Q1	B-1	S
Q2	J-1	S
S1	H-1	
S2	H-2	
S3	G-1	
S4	E-1	
S5	E-2	
S6	F-2	
S7	F-2	
S8	F-1	
S9	K-2	
S10	K-2	
S11	J-1	
X1	E-1	

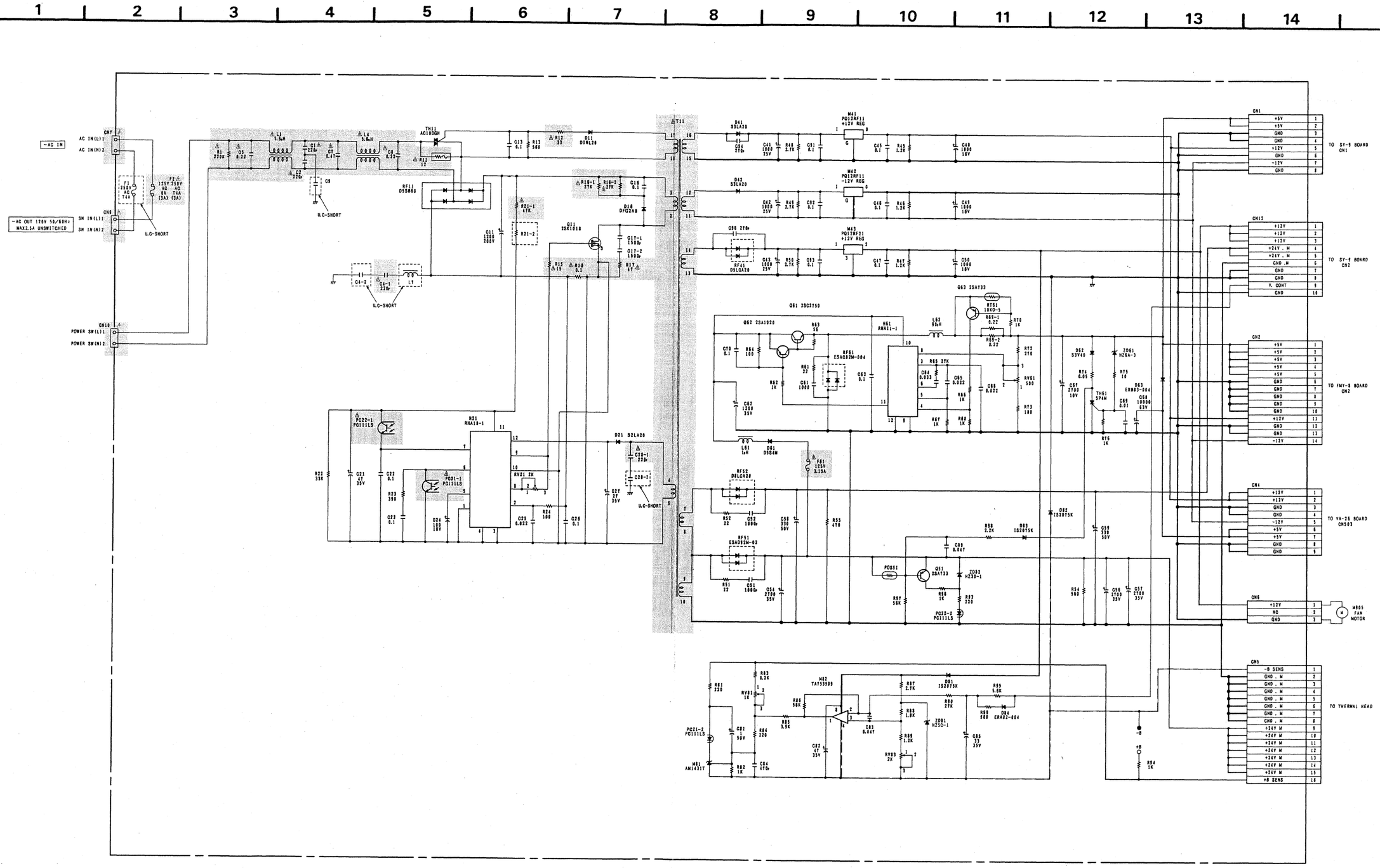
KY-12 —SOLDERING SIDE—
1-641-366-11
UP-5200MD
UP-5250MD

- : Conductor side pattern
- : Component side pattern

KY-12 (FUNCTION SW)



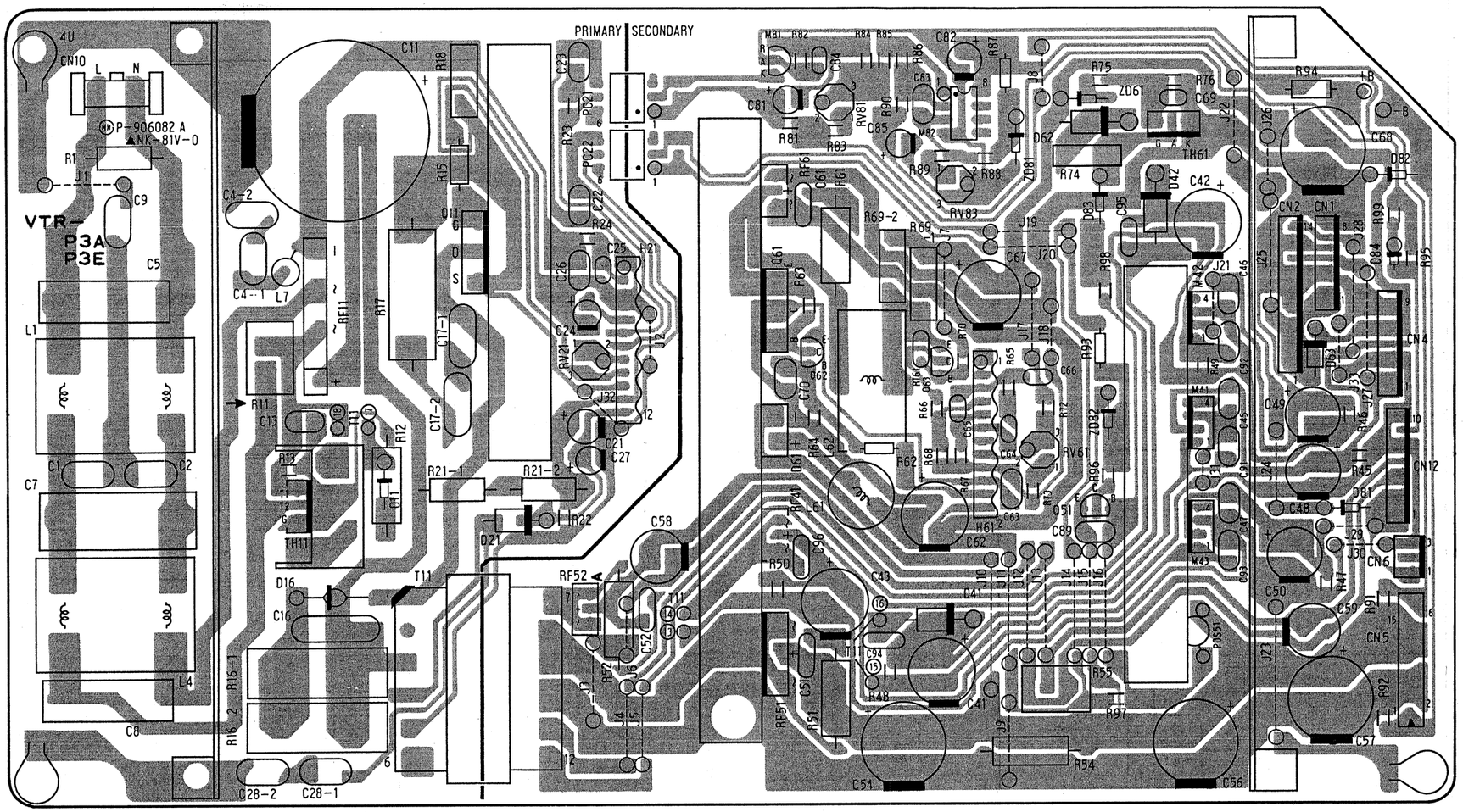
VTR-P3A (POWER SUPPLY)



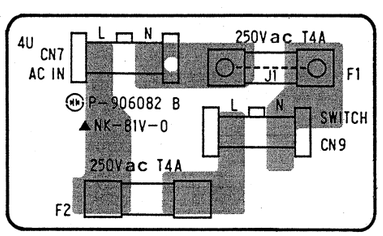
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

VTR-P3A (POWER SUPPLY)



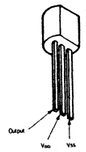
P-906082A —SOLDERING SIDE—
9-901-930-01
UP-5200MD
UP-5250MD



P-906082B —SOLDERING SIDE—
9-902-093-01
UP-5200MD
UP-5250MD

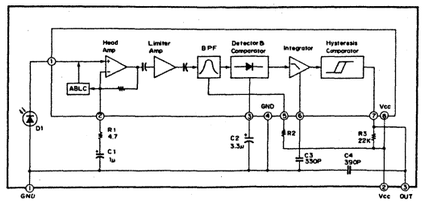
4-3. SEMICONDUCTORS

AM27C010-155DC
AM27C512-205DC

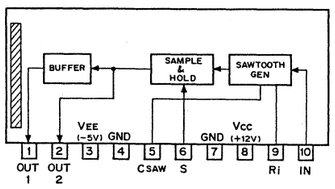


BX-1457 (SONY)

BX-1457

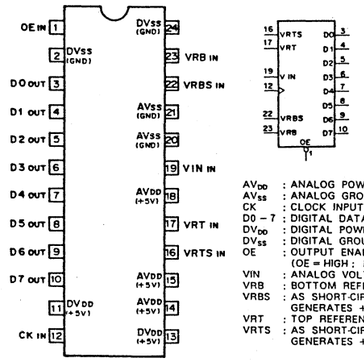


BX1461 (SONY)
PHASE DETECTOR
— PRINTED SIDE —



CXD1175AM (SONY) FLAT PACKAGE

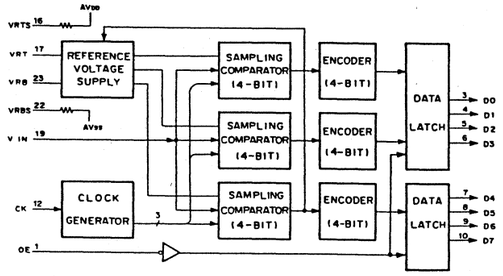
C-MOS 8-BIT 20MSPS VIDEO A/D CONVERTER
– TOP VIEW –



AV_{DD} : ANALOG POWER SUPPLY
AV_{SS} : ANALOG GROUND
CK : CLOCK INPUT
D0 – 7 : DIGITAL DATA OUTPUTS (LSB to MSB)
DV_{DD} : DIGITAL POWER SUPPLY
DV_{SS} : DIGITAL GROUND
OE : OUTPUT ENABLE
(OE = HIGH ; HIGH IMPEDANCE)
VIN : ANALOG VOLTAGE INPUT
VRB : BOTTOM REFERENCE VOLTAGE INPUT
VRBS : AS SHORT-CIRCUIT AT VRB.
GENERATES + 0.6V
VRT : TOP REFERENCE VOLTAGE INPUT
VRTS : AS SHORT-CIRCUIT AT VRT.
GENERATES + 2.6V

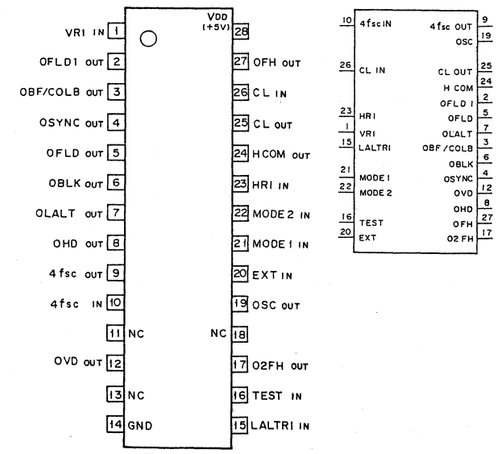
STEP	INPUT SIGNAL VOLTAGE	DATA OUTPUTS							
		D7	D6	D5	D4	D3	D2	D1	D0
0	0V (VRT)	1	1	1	1	1	1	1	1
1	0.01V	1	1	1	1	1	1	1	0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
127	1.34V	1	0	0	0	0	0	0	0
128	1.35V	0	1	1	1	1	1	1	1
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
255	2.7V (VRB)	0	0	0	0	0	0	0	0

0 : LOW LEVEL
1 : HIGH LEVEL



CXD1217M (SONY) FLAT PACKAGE

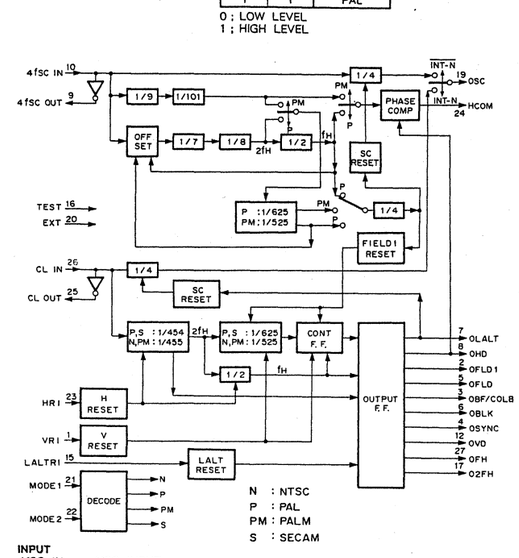
C-MOS SYNC GENERATOR
– TOP VIEW –



SYSTEM	4fsc	CLOCK
NTSC	910fH	910fH
PAL	1135fH+2fV	908fH
PALM	909fH	910fH
SECAM	—	908fH

INPUT		SYSTEM
MODE1	MODE2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

0 ; LOW LEVEL
1 ; HIGH LEVEL

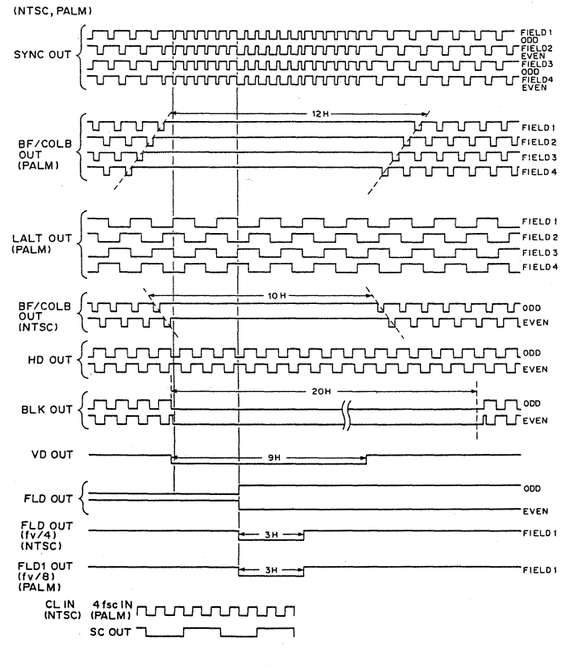


N : NTSC
P : PAL
PM : PALM
S : SECAM

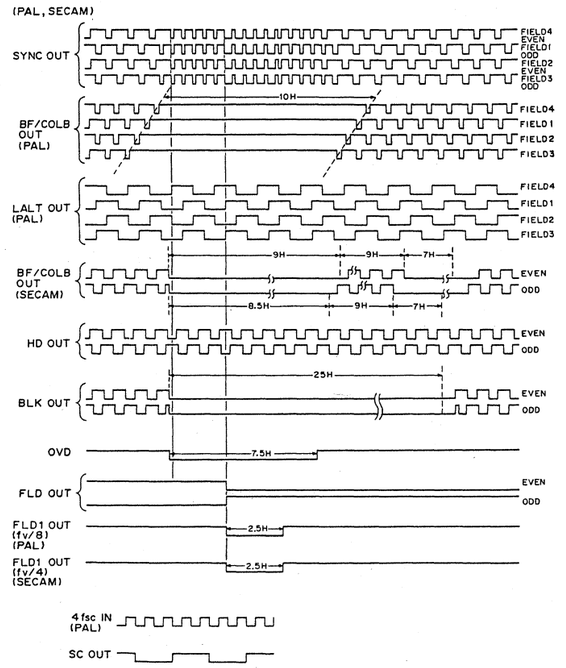
INPUT
4fSC IN ; 4fSC INPUT
CL IN ; CLOCK INPUT
EXT ; SYNC MODE SELECT
(L ; INTERNAL/H ; EXTERNAL)
HRI ; H RESET
LALTRI ; LINE CHANGE RESET
MODE 1,2 ; SYSTEM SELECT
VRI ; V RESET

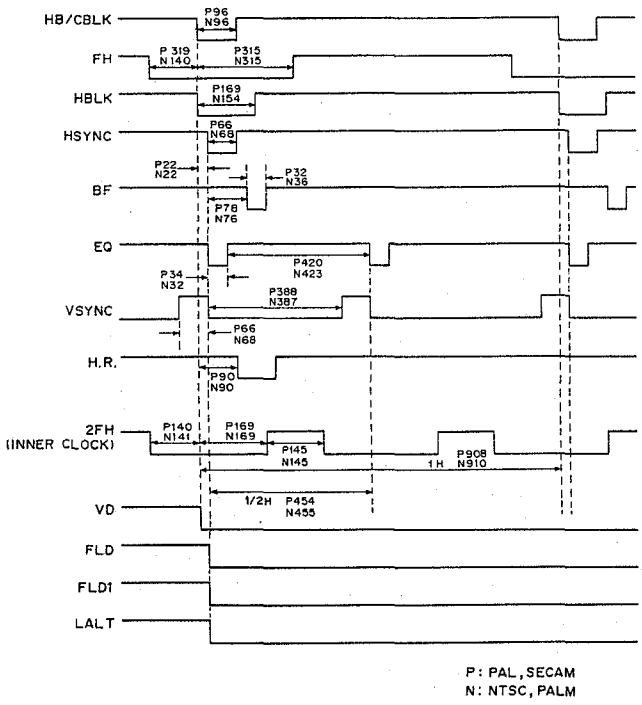
OUT PUT
4fSC OUT ; 4fSC OUTPUT
CL OUT ; CLOCK OUTPUT
HCOM ; PHASE COMPARATOR
02fH ; 2fH OUTPUT
OBF/COLB ; BURST FLAG/COLOR BLANKING
OBLK ; COMPOSITE BLANKING
OFH ; H FREQUENCE
OFLD ; EVEN, ODD
OFLD1 ; FIELD1
OHD ; H DRIVE
OLALT ; LINE CHANGE
OSC ; SUBCARRIER
OSYNC ; COMPOSITE SYNC
OVD ; V DRIVE

(NTSC, PALM)



(PAL, SECAM)

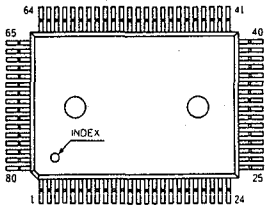




P: PAL, SECAM
N: NTSC, PALM

CXD8301Q (SONY)

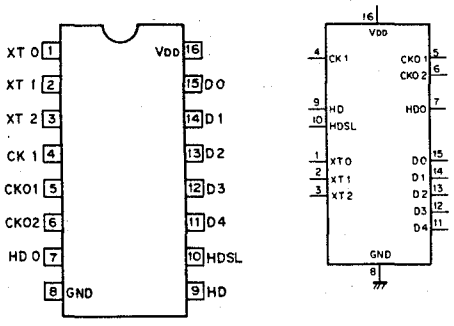
C-MOS GATE ARRAY (VIDEO PRINTER)
– TOP VIEW –



MARKING SIDE VIEW

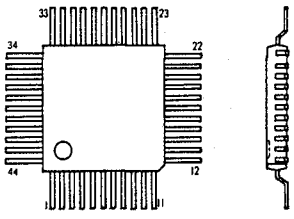
No.	Name	No.	Name	No.	Name	No.	Name
1	COLB	21	VDD	41	SEL2	61	GND
2	VDD	22	GND	42	G0	62	OB0
3	GND	23	INC0	43	G1	63	OB1
4	INA0	24	INC1	44	BA	64	OB2
5	INA1	25	INC2	45	WR	65	OB3
6	INA2	26	INC3	46	CS	66	OB4
7	INA3	27	INC4	47	N.C	67	OB5
8	INA4	28	INC5	48	N.C	68	OB6
9	INA5	29	INC6	49	VDD	69	OB7
10	INA6	30	INC7	50	GND	70	OC0
11	INA7	31	GND	51	OA0	71	GND
12	GND	32	CLK2	52	OA1	72	VDD
13	INB0	33	GND	53	GND	73	OC1
14	INB1	34	VDD	54	OA2	74	OC2
15	INB2	35	CLK1	55	OA3	75	OC3
16	INB3	36	A0	56	OA4	76	OC4
17	INB4	37	A1	57	OA5	77	OC5
18	INB5	38	N.C	58	OA6	78	OC6
19	INB6	39	SEL0	59	OA7	79	OC7
20	INB7	40	SEL1	60	N.C	80	COLA

CXD1332P (SONY)
C-MOS
— TOP VIEW —

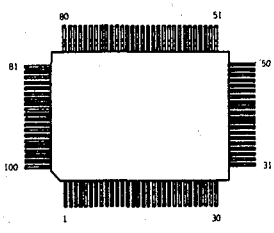


CK1 ; COUNTER CLOCK INPUT
CKO1, O2 ; EXTERNAL COUNTER CLOCK OUTPUTS
DO~D4 ; DATA BUS INPUTS/OUTPUTS
HD ; HD INPUT
HDO ; HD OUTPUT
HDSL ; HD SELECT
XTO~XT2 ; XTAL INPUTS/OUTPUTS

CXD8327Q (SONY)

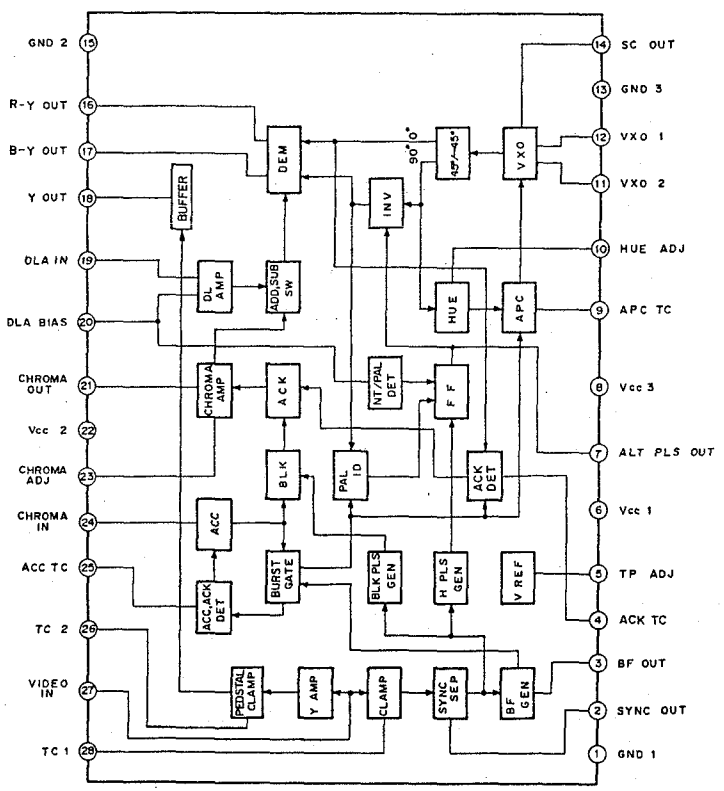


CXD8328Q (SONY)
uPD65013GF-407-3BA (NEC)



CXA1228S (SONY)

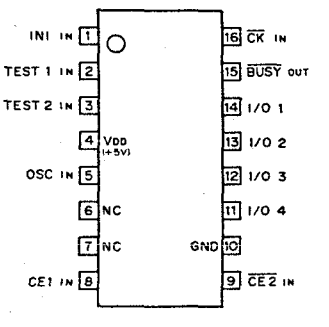
C-MOS NTSC/PAL DECODER



CXK1005P (SONY)

MNOS 512-BIT (32x16) E²PROM

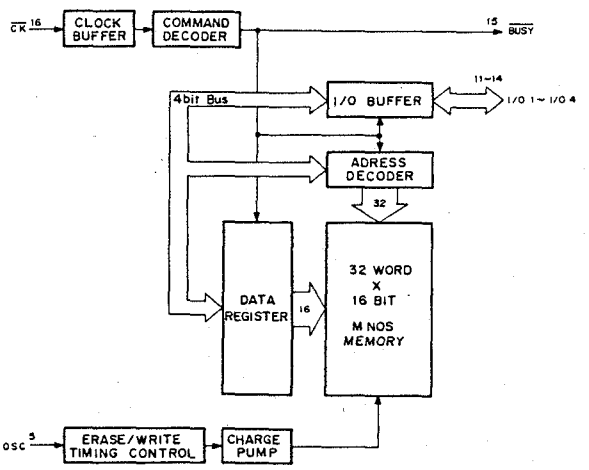
— TOP VIEW —



INI: INITIALIZE INPUT
TEST1, TEST2: CONNECTED TO VDD
OSC: OSCILLATOR INPUT
CE1, CE2: CHIP ENABLE INPUT
I/O1-I/O4: ADDRESS/DATA INPUTS/OUTPUTS
BUSY: BUSY SIGNAL OUTPUT
CK: PROCESSOR CLOCK INPUT

INPUT							FUNCTION
INI	CE	$\overline{CE}$	I/O1	I/O2	I/O3	I/O4	
0	1	0	0	0	1	0	READ
0	1	0	1	0	1	0	WRITE
0	1	0	X	X	0	0	NO OPERATION
0	1	0	X	X	0	1	NO OPERATION
0	1	0	X	X	1	1	NO OPERATION
0	0	0	X	X	X	X	NO OPERATION
0	0	1	X	X	X	X	NO OPERATION
0	1	1	X	X	X	X	NO OPERATION
1	X	X	X	X	X	X	NO OPERATION

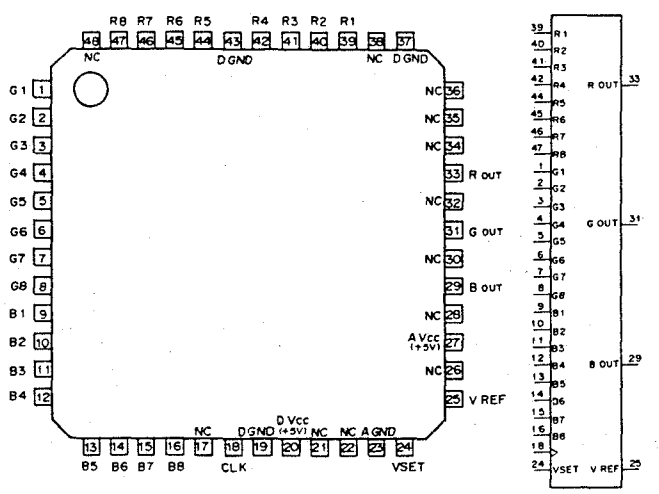
1: HIGH LEVEL
0: LOW LEVEL
X: DON'T CARE



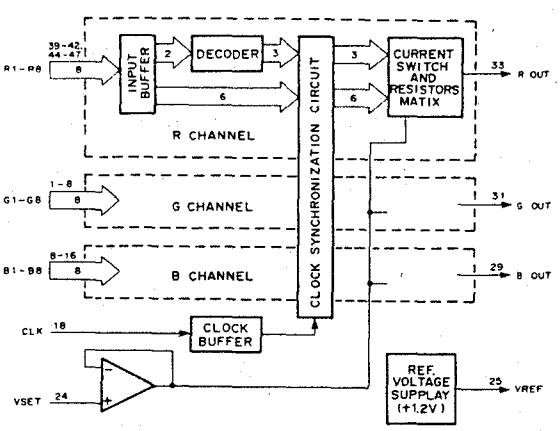
CXA1260Q-Z (SONY) FLAT PACKAGE

8-BIT 35MHz 3-CHANNEL D/A CONVERTER

– TOP VIEW –



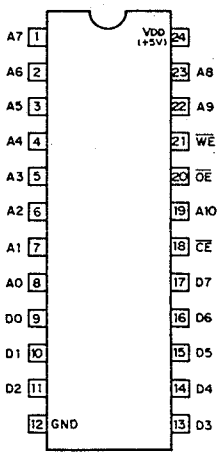
B1-B8 ; B CHANNEL DIGITAL INPUTS (LSB TO MSB)
B OUT ; B CHANNEL ANALOG OUTPUT
CLK ; D/A CONVERSION CLOCK
G1-G8 ; G CHANNEL DIGITAL INPUTS (LSB TO MSB)
G OUT ; G CHANNEL ANALOG OUTPUT
R1-R8 ; R CHANNEL DIGITAL INPUTS (LSB TO MSB)
R OUT ; R CHANNEL ANALOG OUTPUT
VREF ; REFERENCE VOLTAGE OUTPUT, +1.2V TYP.
VSET ; BIAS INPUT (VSET = +0.87V ; D/A OUT = 1Vp-p)

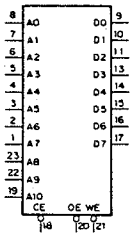


CXK5814P-35L (SONY) (ACCESS TIME = 35nS)

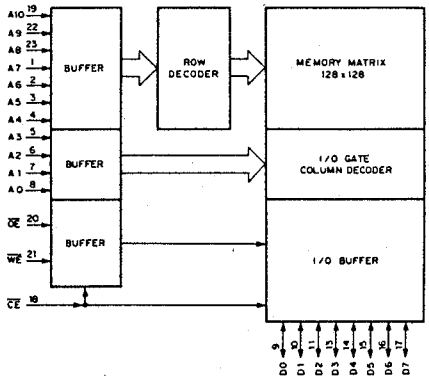
C-MOS 16K (2Kx8) STATIC RAM

– TOP VIEW –





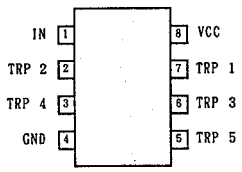
A0 ~ A10 ; ADDRESS INPUTS
D0 ~ D7 ; DATA INPUTS/OUTPUTS
CE ; CHIP ENABLE INPUT
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT



DS1000M-75(DALLAS SEMICONDUCTOR)

C-MOS DELAY LINE

— TOP VIEW —

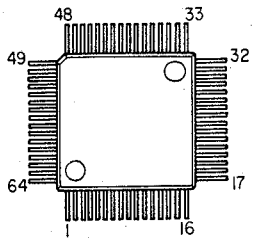


H8/325KY (HITACHI)

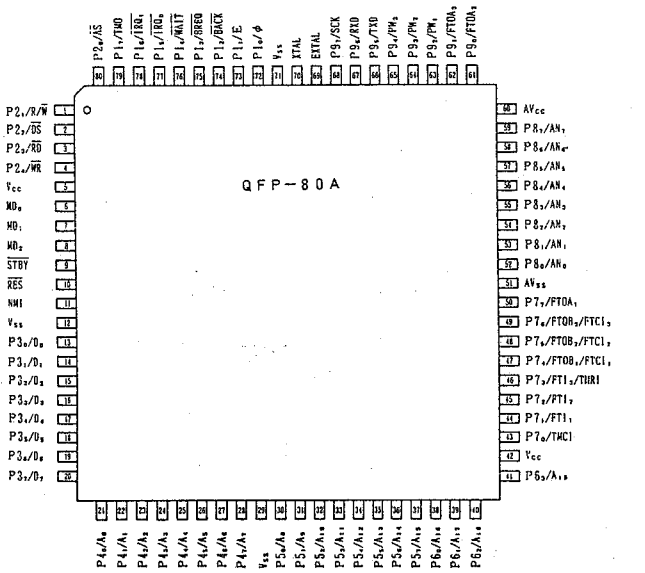
C-MOS 8-BIT SINGLE CHIP MICROCOMPUTER

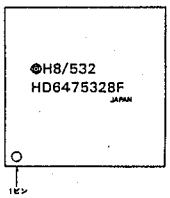
(ROM 32 KByte RAM 1 KByte)

– TOP VIEW –



HD6435328RB13F (HITACHI)



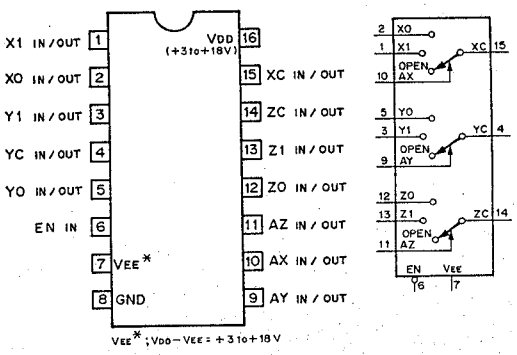


HD14053BFP (HITACHI) FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER

CD4053BE

– TOP VIEW –

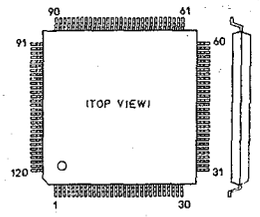


VEE* ; VDD – VEE = +3 to +18 V

CONT. INPUTS		ON
EN	A (X,Y,Z,)	CHANNEL
0	0	0
0	1	1
1	X	OPEN

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE.

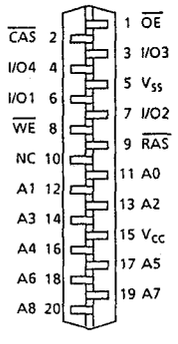
HDC443V2 (HITACHI)
– TOP VIEW –



No.	I/O	Name	No.	I/O	Name	No.	I/O	Name	No.	I/O	Name
1	-	VDD	31	-	GND	61	-	VDD	91	-	GND
2	O	DTT0	32	O	DTE	62	I/O	DAA	92	I	WR
3	O	DTT1	33	I	DCK	63	I/O	DA9	93	I	DDD0
4	O	DTT2	34	I	TMGP	64	I/O	DA8	94	I	DDD1
5	O	DTT3	35	I	PRIN	65	O	CHOO	95	I	DDD2
6	O	DTT4	36	I	PRNS	66	O	AFOO	96	I	DDD3
7	O	DTT5	37	I	RESE	67	O	AAAB	97	I	DDD4
8	O	DTT6	38	I	LI7	68	O	ABBB	98	I	DDD5
9	O	DTT7	39	I	LI6	69	I	TSA	99	I	DDD6
10	O	DTT8	40	I	LI5	70	I	TSB	100	I	DDD7
11	O	DTT9	41	I	LI4	71	I	RWA	101	I	A0A
12	O	DTTA	42	I	LI3	72	I	RWB	102	I	A1A
13	I	TI07	43	I	LI2	73	I	RWC	103	I	A2A
14	O	TO04	44	I	LI1	74	I	LG	104	I	A3A
15	-	GND	45	I	LI0	75	-	GND	105	I	CS2
16	O	HDC	46	I/O	DA7	76	I/O	AD0	106	I	CS1
17	O	ST0B	47	I/O	DA6	77	I/O	AD1	107	I	CS0
18	O	DATA	48	I/O	DA5	78	I/O	AD2	108	O	TO02
19	O	DATB	49	I/O	DA4	79	I/O	AD3	109	I	TI03
20	O	DRV	50	I/O	DA3	80	I/O	AD4	110	I	TI04
21	I	TI08	51	I/O	DA2	81	I/O	AD5	111	O	TO03
22	O	TO05	52	I/O	DA1	82	I/O	AD6	112	I	TI05
23	O	TO01	53	I/O	DA0	83	I/O	AD7	113	I	TI06
24	I	TI01	54	I/O	DAF	84	I/O	AD8	114	I	TSNR
25	I	TI02	55	I/O	DAE	85	I/O	AD9	115	I	TWEB
26	O	TO06	56	I/O	DAD	86	I/O	ADA	116	I	TTOE
27	I	TI10	57	I/O	DAC	87	O	OPTW	117	I	TTCS
28	I	TI11	58	I/O	DAB	88	O	OPTO	118	I	CLOK
29	I	TI09	59	I	IOEN	89	I	OLD	119	O	OSO
30	-	VDD	60	-	GND	90	-	VDD	120	-	GND

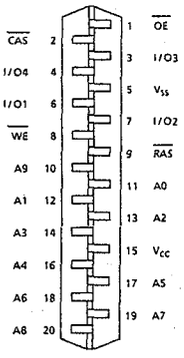
HM514256AZP-8 (HITACHI)

C-MOS RAMDOM ACCESS MEMORY



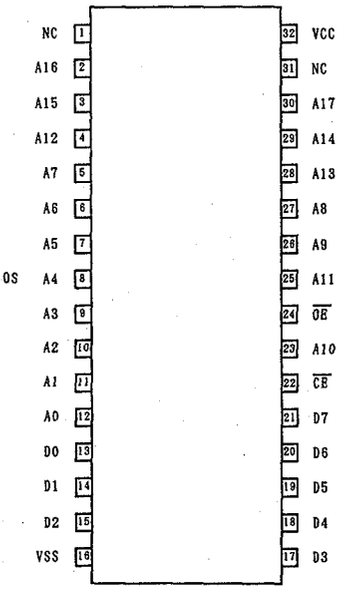
HM51H240AZP-8 (HITACHI)

C-MOS RAMDOM ACCESS MEMORY



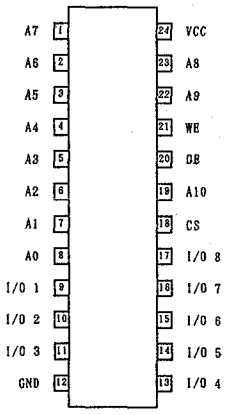
HN62302BF-*** (HITACHI)
C-MOS 262144×8-bit MASK PROGRAMMABLE READ ONLY MEMORY

— TOP VIEW —

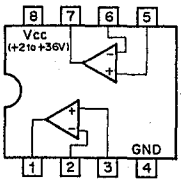


IDT6116SA35TP(IDT)
C-MOS 2K×8 BIT STATIC RANDOM ACCESS MEMORY

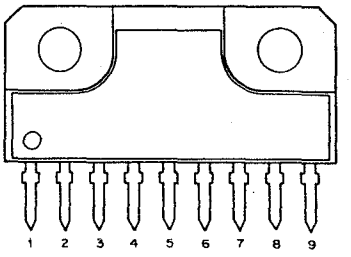
— TOP VIEW —

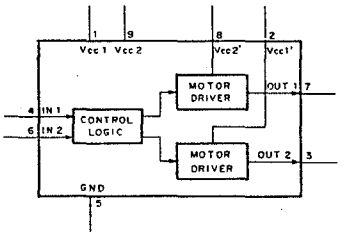


LM393PS (TI) FLAT PACKAGE
UPC393G2 (NEC) FLAT PACKAGE
DUAL VOLTAGE COMPARATORS
– TOP VIEW –



M54543L (MITSUBISHI)
BI-DIRECTIONAL MOTOR DRIVER
— SIDE VIEW —





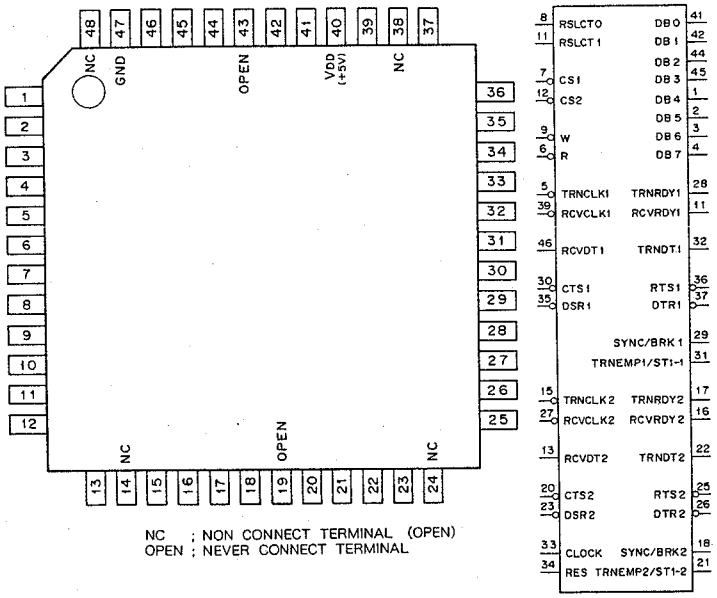
IN		OUT		MODE
1	2	1	2	
0	0	Z	Z	NO OPERATION
1	0	1	0	ROTATION
0	1	0	1	REVERSE ROTATION
1	1	0	0	BRAKE

0 : LOW LEVEL
1 : HIGH LEVEL
Z : HIGH IMPEDANCE

MB89371APF (FUJITSU) FLAT PACKAGE

C-MOS DUAL SERIAL DATA TRANSMITTER/RECEIVER UNIT

– TOP VIEW –



NC ; NON CONNECT TERMINAL (OPEN)
OPEN ; NEVER CONNECT TERMINAL

INPUT

CLOCK	; CLOCK (4.9152MHz) FOR REFERENCE OF TIMING.
CSn	; CHIP SELECT OF CHANNELn.(n = 1 OR 2)
CTSn	; CLEAR TO SEND OF CHANNELn.(n = 1 OR 2)
DSRn	; DATA SET READY OF CHANNELn.(n = 1 OR 2)
R	; READ ENABLE
RCVCLKn	; RECEIVER CLOCK OF CHANNELn.(n = 1 OR 2)
RCVDTn	; RECEIVE DATA OF CHANNELn. (n = 1 OR 2)
RSLCTn	; REGISTERS SELECT LINEn.(n = 0 AND 1)
RST	; RESET PULSE
TRNCLKn	; TRANSMITTER CLOCK OF CHANNELn.(n = 1 OR 2)
W	; WRITE ENABLE

OUTPUT

DTRn	; DATA TERMINAL READY OF CHANNELn.(n = 1 OR 2)
RCVRDYn	; RECEVIER READY OF CHANNELn.(n = 1 OR 2)
RTSn	; REQUEST TO SEND OF CHANNELn.(n = 1 OR 2)
TRNDTn	; TRANSMIT DATA OF CHANNELn.(n = 1 OR 2)
TRNEMPn/ST1-n	; TRANSMITTER EMPTY/BAUD RATE CLOCK OUT OF CHANNELn.(n = 1 OR 2)
TRNRDYn	; TRANSMIT READY OF CHANNELn.(n = 1 OR 2)

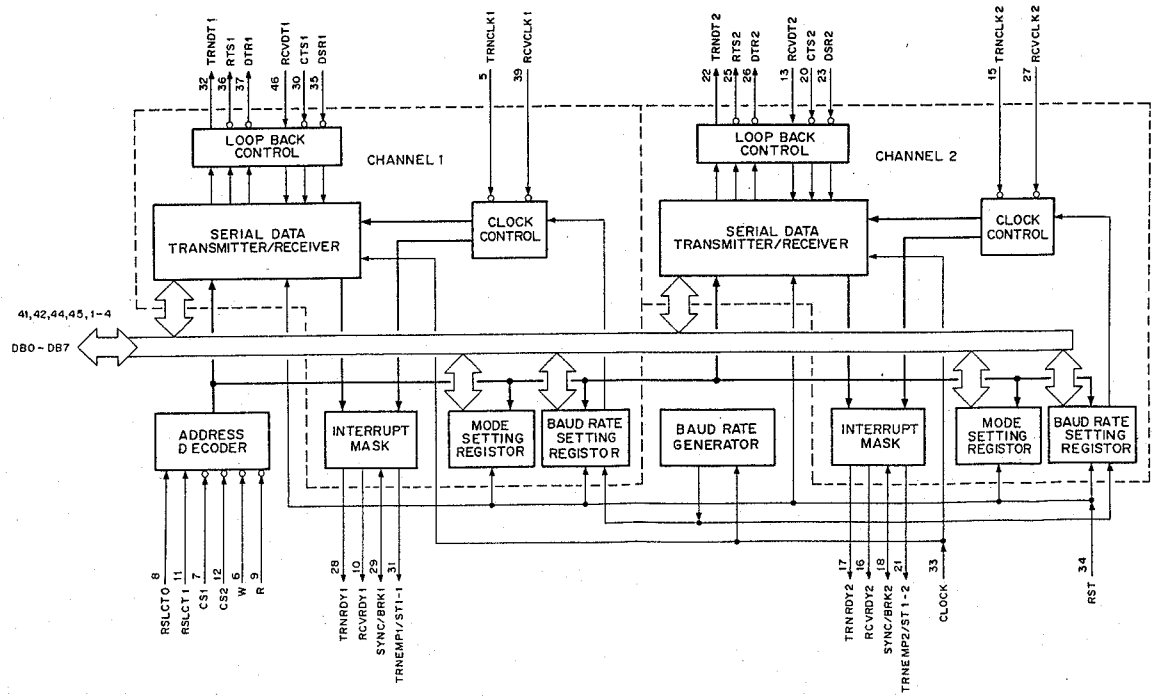
INPUT/OUTPUT

DBn	; DATA BUS LINEn.(n = 0 TO 7)
SYNC/BRKn	; SYNCHRONIZATION CHARACTOR/BREAK CODE DETECT OF CHANNELn.(n = 1 OR 2)

NC	; NON CONNECT TERMINAL (OPEN)
OPEN	; NEVER CONNECT TERMINAL

(V_{DD} = +5V)

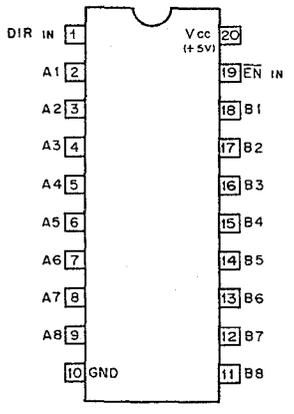
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	DB4	17	O	TRNRDY2	33	I	CLOCK
2	I/O	DB5	18	I/O	SYNC/BRK2	34	I	RST
3	I/O	DB6	19	–	OPEN	35	I	DSR1
4	I/O	DB7	20	I	CTS2	36	O	RTS1
5	I	TRNCLK1	21	O	TRNEMP2/ST1-2	37	I	DTR1
6	I	W	22	O	TRNDT2	38	–	NC
7	I	CS1	23	O	DSR2	39	I	RCVCLK1
8	I	RSLCT0	24	–	NC	40	–	V_{DD}
9	I	R	25	O	RTS2	41	I/O	DB0
10	O	RCVRDY1	26	O	DTR2	42	I/O	DB1
11	I	RSLCT1	27	I	RCVCLK2	43	–	OPEN
12	I	CS2	28	O	TRNRDY1	44	I/O	DB2
13	I	RCVDT2	29	I/O	SYNC/BRK1	45	I/O	DB3
14	–	NC	30	I	CTS1	46	I	RCVDT1
15	I	TRNCLK2	31	O	TRNEMP1/ST1-1	47	–	GND
16	O	RCVRDY2	32	O	TRNDT1	48	–	NC

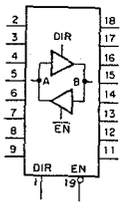


MC74F245M (MOTOROLA) FLAT PACKAGE

TTL BILATERAL SCHMITT TRIGGER BUS TRANSCEIVERS WITH 3-STATE OUTPUTS

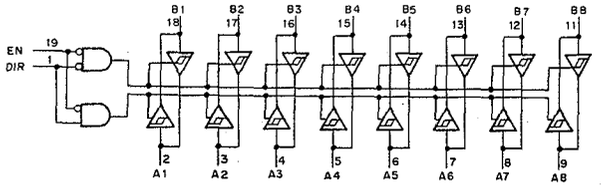
– TOP VIEW –





EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI – Z

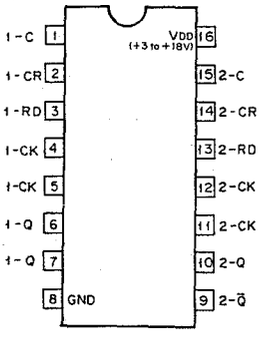
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

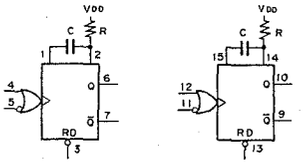


MC14538BF (MOTOROLA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

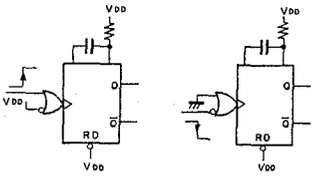
– TOP VIEW –



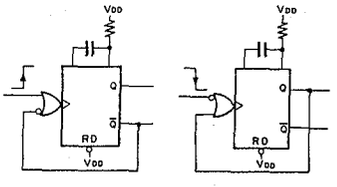


OUTPUT PULSE WIDTH = C·R

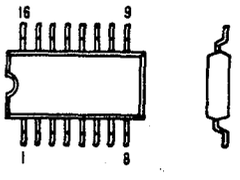
RETRIGGERABLE M.M.V



NON-RETRIGGERABLE M.M.V

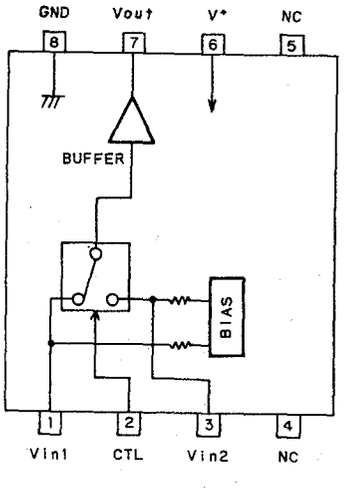


MC74F139M (MOTOROLA)
MC74F257M (MOTOROLA)



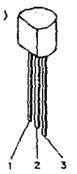
(TOP VIEW)

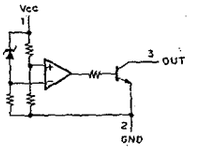
NJM2233BD



PST523C (MITSUMI) 4.5V
SYSTEM RESETTING DEVICE

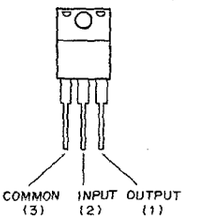
(MITSUMI)

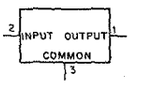




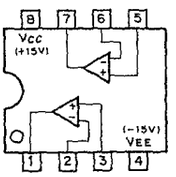
REF.; REFERENCE VOLTAGE

RC7905FA (RAYTHEON) – 5V
RC7909FA (RAYTHEON) – 9V
NEGATIVE VOLTAGE REGULATOR
– FRONT VIEW –

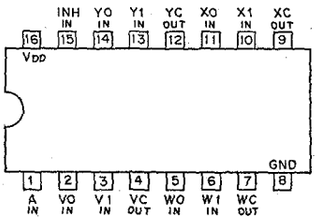


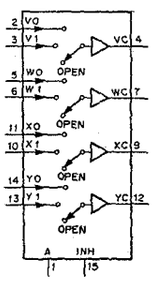


RC4560M (RAYTHEON) FLAT PACKAGE
DUAL OPERATIONAL AMPLIFIER
– TOP VIEW –



SN74HC257NS (TI) FLAT PACKAGE
C-MOS 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
– TOP VIEW –



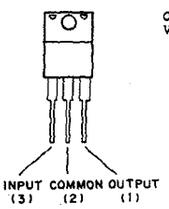


	CONT. IN		ON
	INH	A	CHANNEL
0; LOW LEVEL	0	0	0
1; HIGH LEVEL	0	1	1
X; DON'T CARE	1	X	OPEN

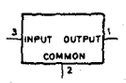
NOTE :

TYPE	VDD
74AC/74HC	+2 to +6V
74ACT	+5V
TC74AC257F	+2 to +5.5V

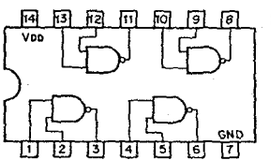
RC7809FA (RAYTHEON)
POSITIVE VOLTAGE REGULATOR
– FRONT VIEW –

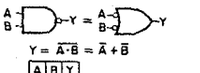


OUTPUT VOLTAGE	NJM78M??FA	NJM78??FA	RC78M??FA	RC78??FA
+5V	NJM78M05FA	NJM7805FA	RC78M05FA	RC7805FA
+6V	NJM78M06FA	NJM7806FA	RC78M06FA	RC7806FA
+8V	NJM78M08FA	NJM7808FA	---------	RC7808FA
+9V	NJM78M09FA	NJM7809FA	RC78M09FA	RC7809FA
+12V	NJM78M12FA	NJM7812FA	RC78M12FA	RC7812FA
+15V	NJM78M15FA	NJM7815FA	RC78M15FA	RC7815FA
+18V	NJM78M18FA	NJM7818FA	---------	RC7818FA
+20V	NJM78M20FA	NJM7820FA	---------	RC7820FA
+24V	NJM78M24FA	NJM7824FA	---------	RC7824FA



SN74HC00ANS (TI) FLAT PACKAGE
C-MOS QUAD 2-INPUT NAND GATE
– TOP VIEW –





A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

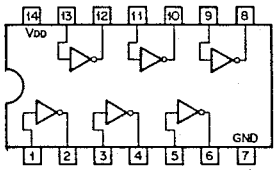
NOTE :

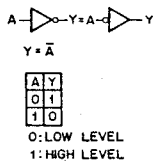
TYPE	VDD
TC74AC00P TC74AC00F	+2 to +5.5V
MC74HCT00N 74ACT00PC	+5V
OTHER TYPES	+2 to +6V

SN74HC04ANS (TI) FLAT PACKAGE

C-MOS HEX INVERTER

– TOP VIEW –





A	Y
0	1
1	0

0: LOW LEVEL
1: HIGH LEVEL

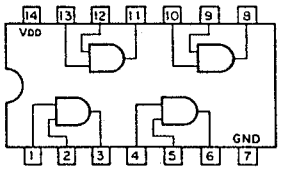
NOTE :

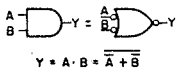
TYPE	VDD
74ACT04 TYPES 74HCT04 TYPES	+5V
TC74AC04F	+2 to +5.5V
TC74ACT04F	+4.5 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC08ANS (TI) FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATE

– TOP VIEW –





A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

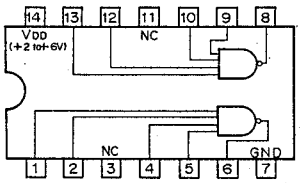
NOTE :

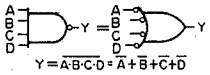
TYPE	VDD
TC74AC08F	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC20ANS (TI) FLAT PACKAGE

C-MOS 4-INPUT POSITIVE-NAND GATE

– TOP VIEW –





A	B	C	D	Y
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
:	:	:	:	:
1	1	0	1	1
1	1	1	0	1
1	1	1	1	0

0; LOW LEVEL
1; HIGH LEVEL

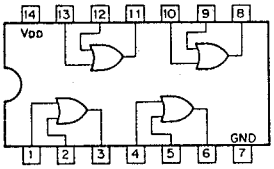
NOTE :

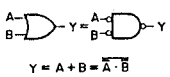
TYPE	VDD
TC74AC20	+2V to +5.5V
OTHER TYPES	+2V to +6V

SN74HC32ANS (TI) FLAT PACKAGE

C-MOS 2-INPUT OR GATE

– TOP VIEW –





A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0; LOW LEVEL
1; HIGH LEVEL

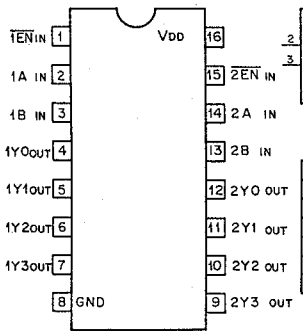
NOTE :

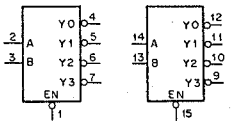
TYPE	VDD
TC74AC32	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC139ANS (TI) FLAT PACKAGE

C-MOS DUAL 2-TO-4 DECODER/DEMULTIPLEXER

– TOP VIEW –





INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	YO
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

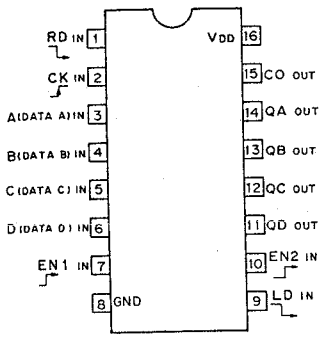
NOTE :

TYPE	VDD
74AC/74HC	+2 to +6V
74ACT	+5V
TC74AC139	+2 to +5.5V

SN74HC163ANS (TI) FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER

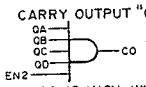
– TOP VIEW –



MODE SELECTION

CONTROL INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

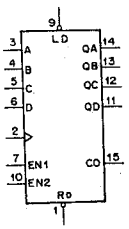
CARRY OUTPUT "CO"



CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15"

NOTE :

TYPE	VDD
74ACT	+5V
TC74AC163	+2 to +5.5V
OTHER TYPES	+2 to +6V



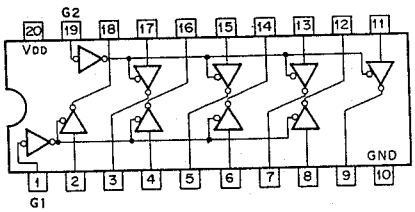
COUNT SEQUENCE

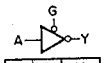
COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

SN74HC240ANS (TI) FLAT PACKAGE

C-MOS 3-STATE INVERTER/LINE DRIVER

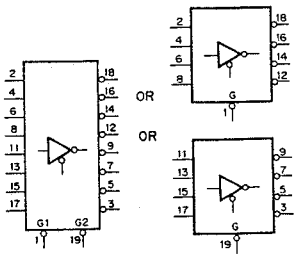
– TOP VIEW –





G	A	Y
0	0	1
0	1	0
1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



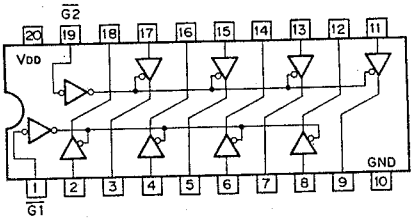
NOTE :

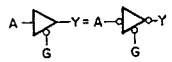
TYPE	VDD
74AC/74HC	+2 to +6V
74ACT/74HCT	+5V
TC74AC240F TC74AC240P	+2 to +5.5V

SN74HCT244ANS (TI) FLAT PACKAGE

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS

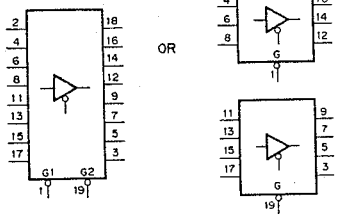
– TOP VIEW –





G	A	Y
0	0	0
0	1	1
1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



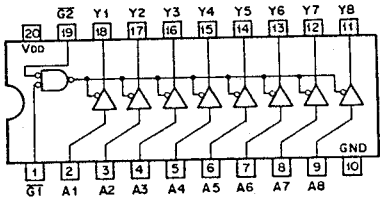
NOTE :

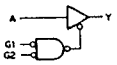
TYPE	VDD
AC HC 40H	+2 to +6V
ACT HCT	+5V

SN74HC541ANS (TI) FLAT PACKAGE

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS

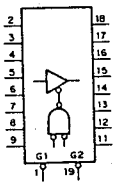
– TOP VIEW –





G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



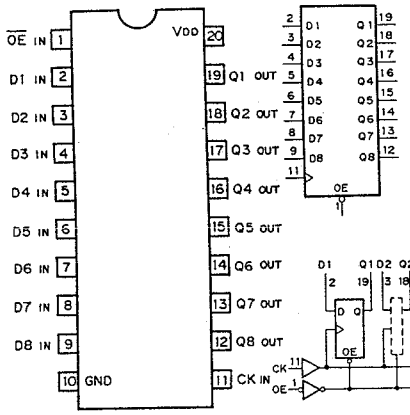
NOTE :

TYPE	VDD
AC	+2 to +5.5V
HC	+2 to +6V
ACT/HCT	+5V

SN74HC573BNS (TI) FLAT PACKAGE

C-MOS 3-STATE OUTPUTS OCTAL LATCHES

– TOP VIEW –



INPUTS			OUT
OE	CK	D	Q
0	1	1	1
0	1	0	0
0	0	X	Qo
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Qo ; NO CHANGE

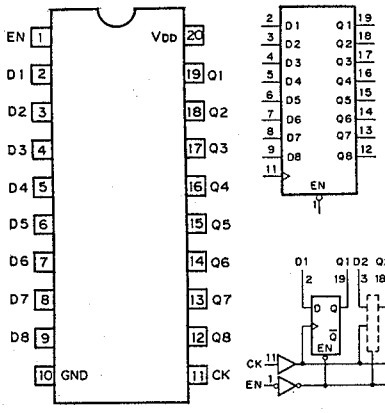
NOTE :

TYPE	VDD
AC	+2 to +6V
HC	
ACT	+5V
HCT	
TC74AC573	+2 to +5.5V

SN74HC574ANS (TI) FLAT PACKAGE

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP

– TOP VIEW –



EACH FLIP-FLOP

INPUTS			OUT
EN	CK	D	Q
0	↑	1	1
0	↑	0	0
0	↓	X	Qo
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI - Z ; HIGH IMPEDANCE
Qo ; NO CHANGE

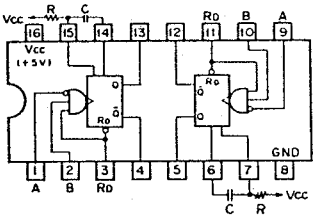
NOTE :

TYPE	VDD
74AC/74HC	+ 2 to + 6V
74ACT/74HCT	+ 5V
TC74AC574F	+ 2 to + 5.5V

SN74LS123NS (TI) FLAT PACKAGE

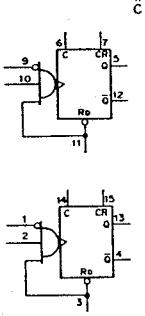
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET

– TOP VIEW –

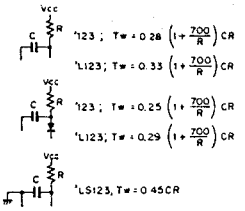


INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↓	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE



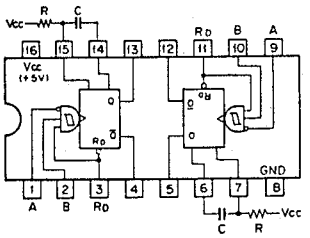
OUTPUT PULSE WIDTH



SN74LS221NS (TI) FLAT PACKAGE

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT

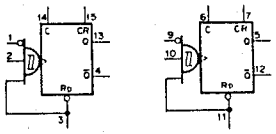
– TOP VIEW –



INPUTS			OUTPUTS	
RD	A	B	Q	Q̄
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↓	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE

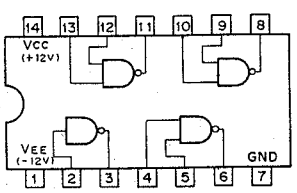
OUTPUT PULSE WIDTH = 0.7CR

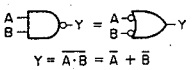


SN75188NS (TI) FLAT PACKAGE

2-INPUT (1-INPUT) POSITIVE-NAND LINE DRIVER

– TOP VIEW –





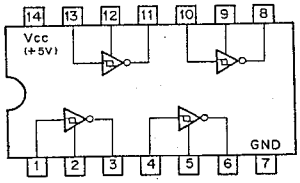
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0;LOW LEVEL
1;HIGH LEVEL

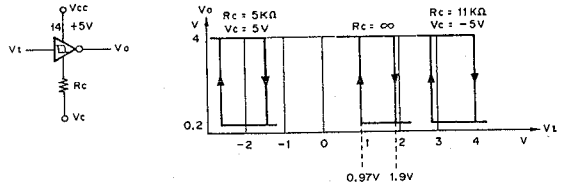
SN75189ANS (TI) FLAT PACKAGE

QUADRUPLE LINE RECEIVER

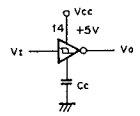
– TOP VIEW –



INPUT THRESHOLD SHIFTING



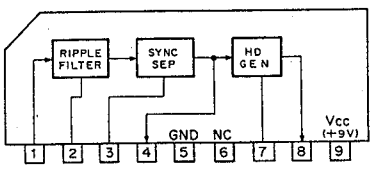
INPUT NOISE FILTERING



TA7357AP (TOSHIBA)

SYNC SEPARATOR/HD PULSE GENERATOR

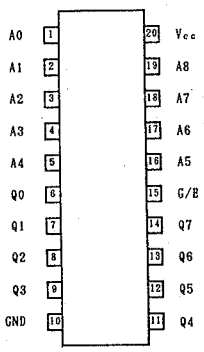
— SIDE VIEW —



TBP28L42N(TI)

TTL 4096 BIT PROGRAMABLE READ ONLY MEMORY

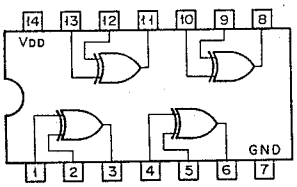
— TOP VIEW —

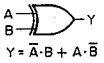


TC74HC86AF (TOSHIBA) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATE

– TOP VIEW –





$Y = \overline{A} \cdot B + A \cdot \overline{B}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

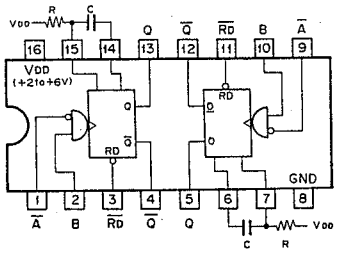
0;LOW LEVEL
1;HIGH LEVEL

TYPE	VDD
TC74AC86F	+2 to +5.5V
OTHER TYPES	+2 to +6V

TC74HC123AF (TOSHIBA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

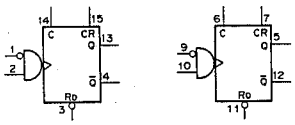
– TOP VIEW –



INPUT			OUTPUT	
RD	A	B	Q	Q̄
0	X	X	0	1
1	1	X	0	1
1	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↓	0	1	⊓	⊔

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH = 0.46CR

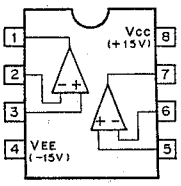


TL082CPS (TI) FLAT PACKAGE

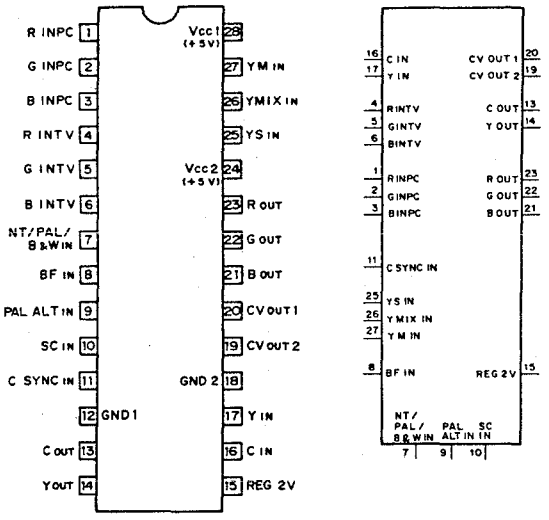
OPERATIONAL AMPLIFIER

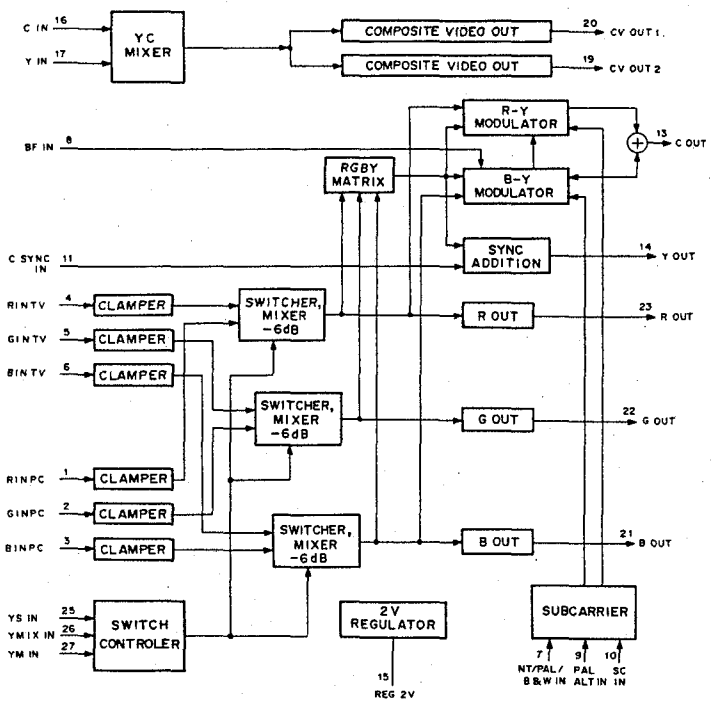
(J FET-INPUT)

– TOP VIEW –



V7040 (SONY)
NTSC/PAL ENCODER
— TOP VIEW —





FUNCTION TABLE

PIN NO.	SYMBOLIC NAME	DESCRIPTION
1	RINPC	RED INPUT FROM PERSONAL COMPUTER
2	GINPC	GREEN INPUT FROM PERSONAL COMPUTER
3	BINPC	BLUE INPUT FROM PERSONAL COMPUTER
4	RINTV	RED INPUT FROM TV
5	GINTV	GREEN INPUT FROM TV
6	BINTV	BLUE INPUT FROM TV
7	NT/PAL/B&W IN	MODE SELECTION VOLTAGE INPUT NTSC MODE: 4.0V ≦ V7 PAL MODE: 2.0V ≦ V7 ≦ 3.0V BLACK AND WHITE MODE: V7 ≦ 0.8V V7 IS THE VOLTAGE MUST BE APPLIED
8	BF IN	BURST FLAG SIGNAL INPUT
9	PAL ALT IN	PAL LINE ALTERNATION PULSE INPUT
10	SC IN	SUBCARRIER INPUT
11	C SYNC IN	COMPOSITE SYNCHRONIZING SIGNAL INPUT
12	GND1	GROUND EXCLUDED RGB OUT AND CV OUT
13	C OUT	CHROMA SIGNAL OUTPUT
14	Y OUT	Y SIGNAL OUTPUT
15	REG 2V	REFERENCE VOLTAGE
16	C IN	CHROMA SIGNAL INPUT
17	Y IN	Y SIGNAL INPUT
18	GND2	GROUND FOR RGB OUT AND CV OUT STAGES
19	CV OUT2	
20	CV OUT1	COMPOSITE VIDEO SIGNAL OUTPUT
21	B OUT	BLUE SIGNAL OUTPUT
22	G OUT	GREEN SIGNAL OUTPUT
23	R OUT	RED SIGNAL OUTPUT
24	Vcc2	Vcc FOR RGB OUT AND CV OUT STAGES
25	YS IN	See below table.
26	YMIX IN	
27	YM IN	
28	Vcc1	Vcc EXCLUDED RGB OUT AND CV OUT STAGES

YS/YMIX/YM SWITCH TABLE

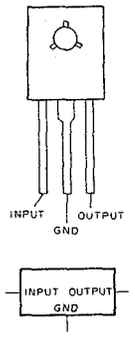
YS	YMIX	YM	MODE
L	L	L	TV
L	L	H	HALF TONE
L	H	L	TV
L	H	H	HALF TONE
H	L	L	PC
H	L	H	PC
H	H	L	MIX
H	H	H	MIX

L ≦ 0.8V
H ≧ 2.0V

UPC78N05H (NEC) +5V

POSITIVE VOLTAGE REGULATOR

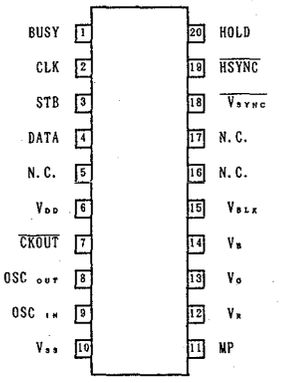
– FRONT VIEW –



UPD6451AGT(NEC)

C-MOS ON DISPLAY CHARACTOR GENERATOR

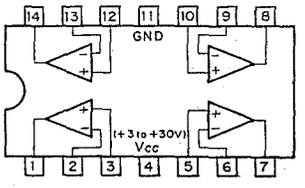
— TOP VIEW —



UPC324G2 (NEC) FLAT PACKAGE

QUAD. OP AMPLIFIER

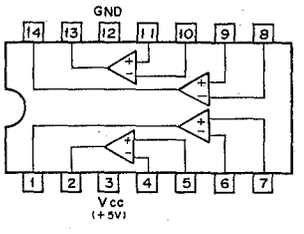
– TOP VIEW –



UPC339G2 (NEC) FLAT PACKAGE

COMPARATOR

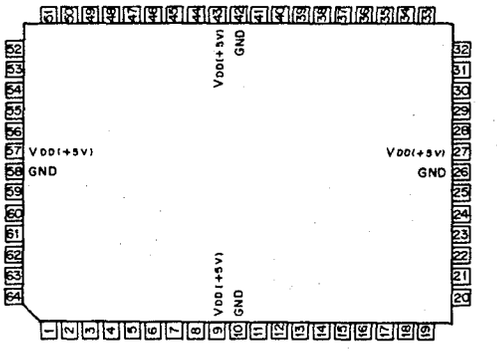
– TOP VIEW –



uPD65006GF-250-3B8 (NEC)

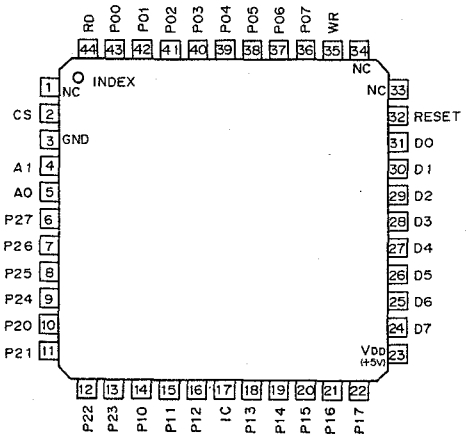
C-MOS

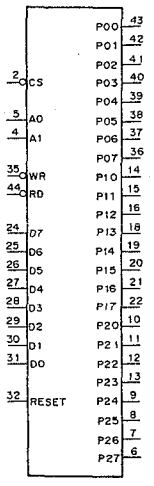
— TOP VIEW —



PIN NO.	PIN NAME	PIN NO.	PIN NAME	PIN NO.	PIN NAME	PIN NO.	PIN NAME
1		17	P8	33		49	INT VD
2		18	P9	34		50	
3	MEMO HDL	19	P10	35	HDL7	51	
4	SWD HDL	20	CAS1	36	HDL6	52	INT HD
5	SWD VD	21	CAS2	37	HDL5	53	INT SYNC
6	VBLK	22	CUP	38	HDL4	54	SWD HD
7	P0	23	VBLK	39	HDL3	55	MONI SYNC
8	P1	24	A.EN	40	HDL2	56	SIG DET
9	VDD	25	IN/M	41	HDL1	57	VDD
10	GND	26	GND	42	GND	58	GND
11	P2	27	VDD	43	VDD	59	HD
12	P3	28	HD RET	44	D/A CK	60	SYNC
13	P4	29	HD OUT	45	RAS	61	VD
14	P5	30	RES	46	CK	62	FULL /SPLIT
15	P6	31	HDL9	47	EXT D/A	63	SP9/SP4
16	P7	32	HDL8	48	INT D/A	64	IN/MEMO

UPD71055GB-3B4 (NEC) FLAT PACKAGE
C-MOS PARALLEL INTERFACE UNIT
– TOP VIEW –





A1, A0 : ADDRESS
CS : CHIP SELECT
D7 – D0 : DATA BUS
P07 – P00 : PORT 0

P17 – P10 : PORT 1
P27 – P20 : PORT 2
RD : READ STROBE
WR : WRITE STROBE

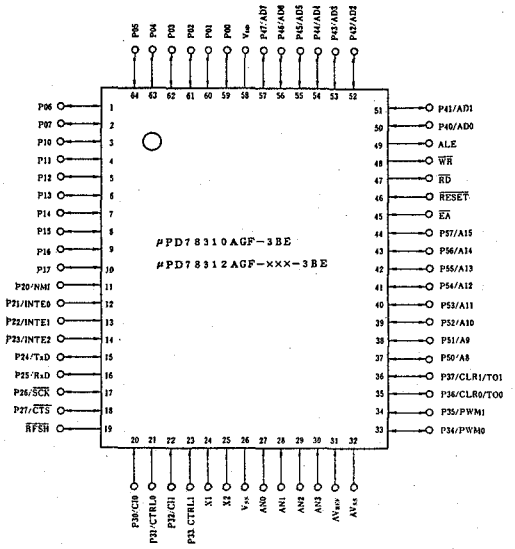
IC : INTERNALLY CONNECTED

CS	RD	WR	A1	A0	OPERATION	CPU ACTION
0	0	1	0	0	PROT0 ⟶ DATA · BUS	INPUT
0	0	1	0	1	PROT1 ⟶ DATA · BUS	INPUT
0	0	1	1	0	PROT2 ⟶ DATA · BUS	INPUT
0	0	1	1	1	DISABLE	
0	0	0	X	X		
0	1	0	0	0	DATA · BUS ⟶ PROT0	OUTPUT
0	1	0	0	1	DATA · BUS ⟶ PROT1	OUTPUT
0	1	0	1	0	DATA · BUS ⟶ PROT2	OUTPUT
0	1	0	1	1	DATA · BUS ⟶ COMMAND REGISTER	OUTPUT
0	1	1	X	X	HIGH IMPEDANCE	
1	X	X	X	X		

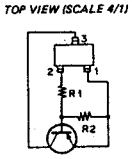
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

uPD78310AGF-3BE (NEC)

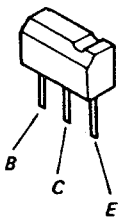
C-MOS 16/8 BIT ONE CHIP MICROCOMPUTER
– TOP VIEW –



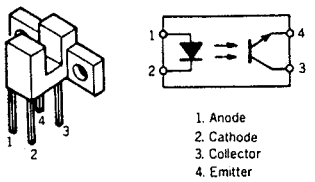
DTA114EK
(R1 = 10K, R2 = 10K)



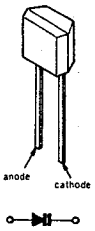
2SC1652-Q



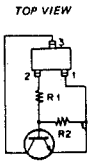
TLP805



1SV101

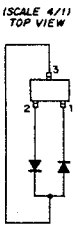


DTC124EK
(R1 = 22K, R2 = 22K)

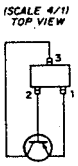


TPS612-B

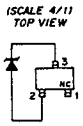
1SS123



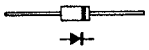
2SA812



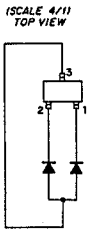
RD3.9M-B2
RD4.7M-B2
RD7.5M-B2



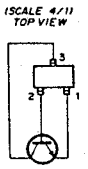
10E-2
1SS133



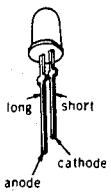
1S2835



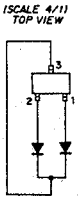
2SD992A
2SC1623
2SC2714
2SC2757
2SC3326N



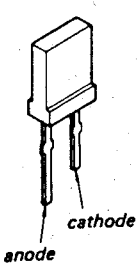
SIR-481ST3F



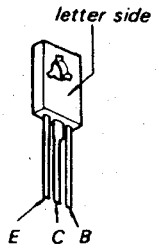
1S2837



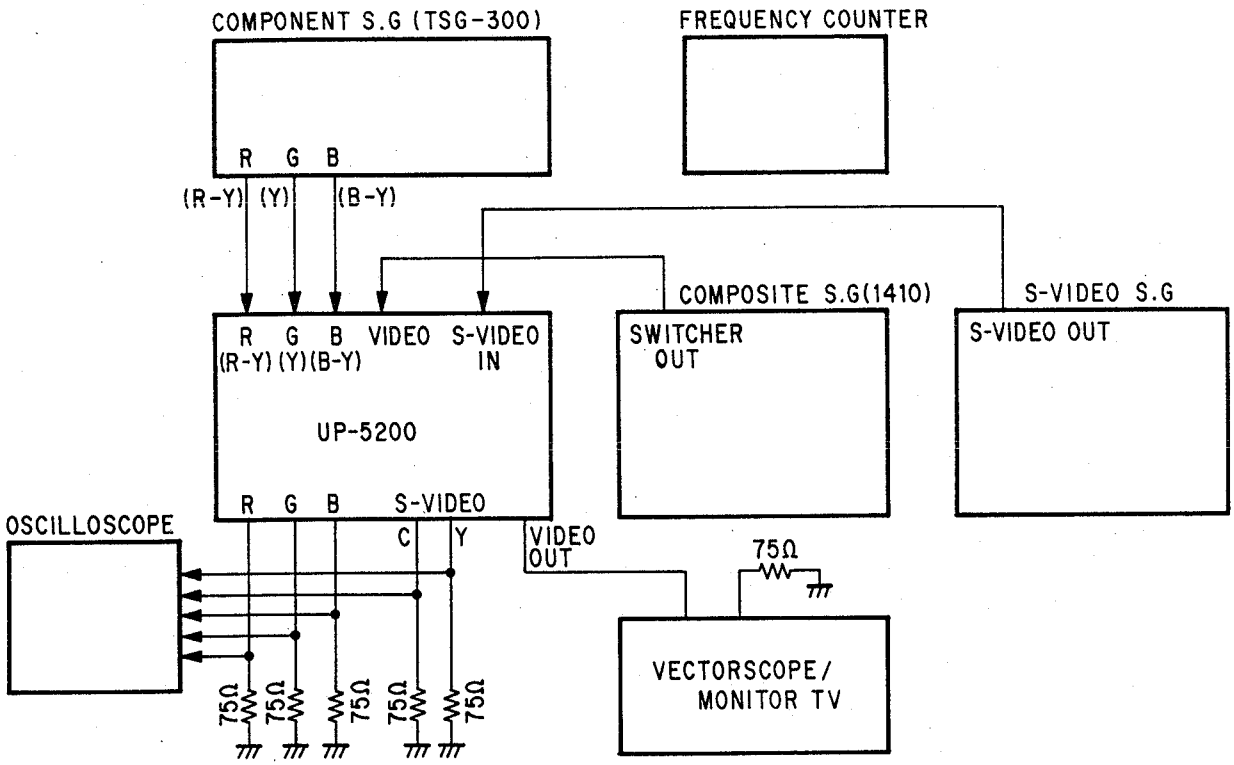
SLP-255B-51
SLP-655B-50



2SB772-P



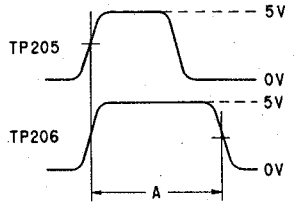
SECTION 5
ELECTRICAL ADJUSTMENTS



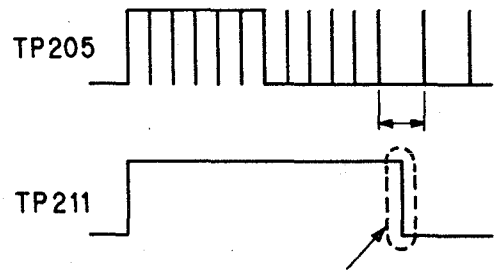
- The volume of the front panel shall all be set to the center click position. (GAIN , HUE , COLOR)
- The volume of the rear panel shall all be set to the center click position. (R , G , B)
- Rear panel
  VIDEO 75Ω SW : Set to ON
  R.G.B 75Ω SW : Set to ON
  R.G.B / R-Y , B-Y SW : Set to RGB
- Set the AGC switch of the front panel to manual position.

- COMPOSITE S.G (1410)
  FULL FIELD, AMPLE = 75%
  WHITE REF = 100 IRE
- COMPOSITE S.G (TSG-300)
  100 IRE/100% COLOR BAR
- S-VIDEO S.G (TSG-130)
  100 IRE/75% COLOR BAR

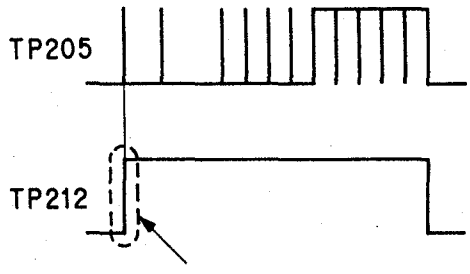
5 - 1. Clamp Pulse Delay Adjustment (VA-26 Board)

Composition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP205(F-5) = CH-1 TP206(G-5) = CH-2 E102(GND)(F-7)  2V/DIV 1μs/DIV A = 5.6 ± 0.1μs	RV201(F-5) TRIG : CH-1

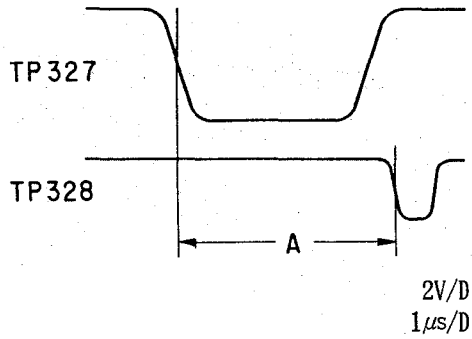
5 - 2. V . BLK Pulse Post-edge Adjustment (VA-26 Board)

Composition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP205(F-5) = CH-1 TP211(F-6) = CH-2  It is sufficient if this part is inserted between the above pulse.	RV203(E-6) TRIG : CH-2

5 - 3. V . BLK Pulse Pre-edge Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP205(F-5) = CH-1 TP212(F-5) = CH-2  Adjust this part with the start of the above pulse.	RV204(E-6) TRIG : CH-2

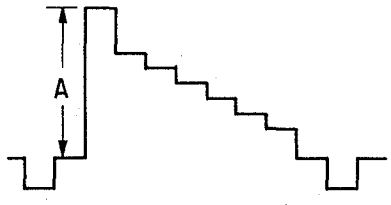
5 - 4. Burst Flag Position Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP327(F-3) = CH-1 TP328(F-3) = CH-2  2V/DIV 1μs/DIV A = 5.6 ± 0.1μs	RV311(F-4) TRIG : CH-1

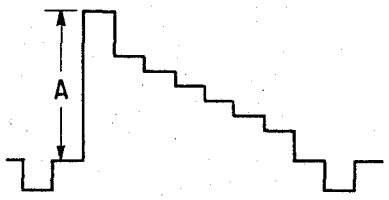
5 - 5. APC Free-Run Frequency Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO 2. Rotate the COLOR volume (DSC-9 board) on the front panel fully counterclockwise. 3. Set S301(F-2) on the VA-26 board to ADJ. 4. Rotate RV309 fully counter clockwise. 5. After adjustment, return the COLOR volume to the centerclick position and set S301(F-2) back to NORM. 6. Perform 5-8. B-Y level adjustment.	TP326(G-2) E305(GND)(F-1) 3.579545MHz ± 50Hz	RV312(F-4)

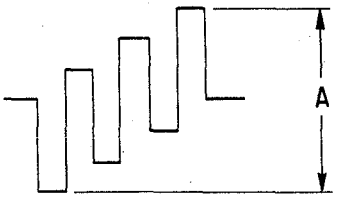
5 - 6. Y Level (1) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP332(G-2) E305(GND)(F-1)  A = 714mV ± 10mV	RV304(J-3) TRIG : CH-1

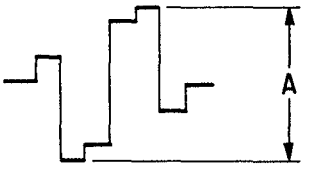
5 - 7. Y Level (2) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP323(F-3) E305(GND)(F-1)  A = 684mV ± 10mV	RV314(G-2) TRIG : CH-1

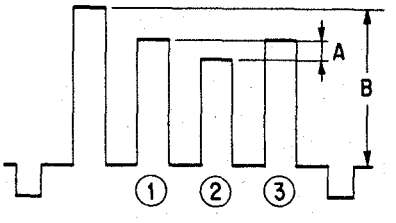
5 - 8. B-Y Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO 2. Rotate RV315 fully clockwise.	TP324(G-1) E305(GND)(F-1)  1. A = 1.27 ± 0.02 Vp-p 2. A = 670mV ± 20mVp-p	RV309(F-2) = 1 RV315(G-2) = 2 TRIG : CH-1

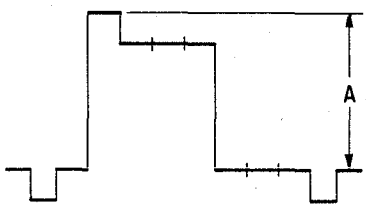
5 - 9. R-Y Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP325 (G-1) E305(GND)(F-1)  A = 670mV ± 20mVp-p	RV303(G-2) TRIG : CH-1

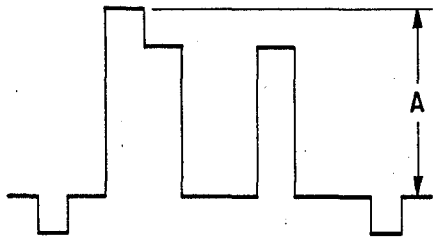
5 - 10. Blue Level • HUE Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO 2. Coincide the amplitudes of waveforms ①, ② and③ using RV313.	TP317(J-1) E304(GND)(J-3)  100 mV/DIV 10 μs/DIV A = Coincide B = 670mV ± 20mVp-p	RV313(F-1) • • • A RV308(H-2) • • • B TRIG : CH-1

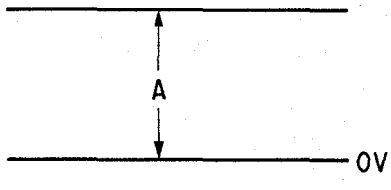
5 - 11. G Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP316(J-2)  100 mV/DIV 10 μs/DIV A = 670mV ± 20mVp-p	RV307(J-2) TRIG : CH-1

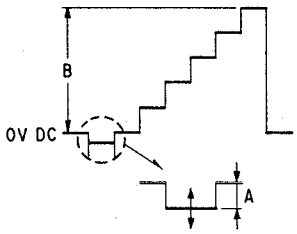
5 - 12. R Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP315(J-1)  100 mV/DIV 10 μs/DIV A = 670mV ± 20mV	RV305(J-2) TRIG : CH-1

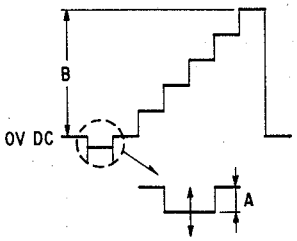
5 - 13. A/D Ref Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO • GAIN volume (DSC-9 board) :center click • AGC switch (DSC-9 board) :manual	TP4(M-1) E1(GND)(N-3)  A = 1.8 ± 0.02 Vp-p	RV16(M-2) TRIG : CH-1

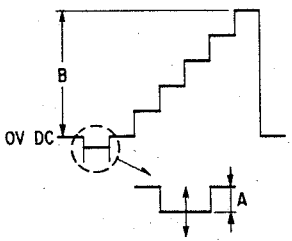
5 - 14. R Level (A/D IN) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. • Input select = R.G.B • Input signal = 5 stair steps (TSG-300) 2. Adjust the pedestal level to 0V DC using RV9 and minimize A using RV10. 3. Alternately rotating RV2 and RV9, adjust the the pedestal level and white peak.	TP1(P-1)  DC 500 mV/DIV 10 μs/DIV A = Minimum B = 1.8 ± 0.02 Vp-p	RV9(M-3) RV10(N-3) RV2(M-3) TRIG : CH-1

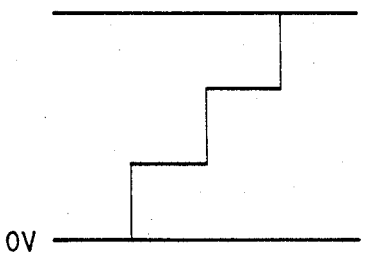
5 - 15. G Level (A/D IN) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. • Input select = R.G.B • Input signal = 5 stair steps (TSG-300) 2. Adjust the pedestal level to 0V DC using RV8 and minimize A using RV3. 3. Alternately rotating RV4 and RV8, adjust the the pedestal level and white peak.	TP2(N-1)  DC 500 mV/DIV 10 μs/DIV A = Minimum B = 1.8 ± 0.02 Vp-p	RV8(L-3) RV3(N-3) RV4(N-2) TRIG : CH-1

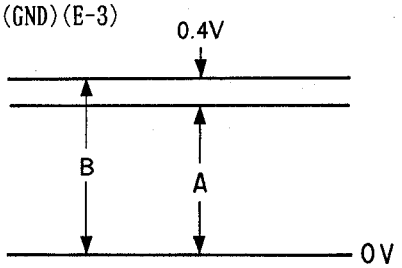
5 - 16. B Level (A/D IN) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. • Input select = R.G.B • Input signal = 5 stair steps (TSG-300) 2. Adjust the pedestal level to 0V DC using RV7 and minimize A using RV1. 3. Alternately rotating RV6 and RV7, adjust the the pedestal level and white peak.	TP3(N-1)  DC 500 mV/DIV 10 μs/DIV A = Minimum B = 1.8 ± 0.02 Vp-p	RV7(L-3) RV1(M-3) RV6(M-3) TRIG : CH-1

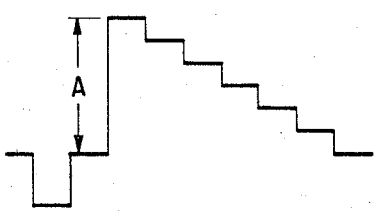
5 - 17. R.G.B Balance Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. • Input select = R.G.B • Input signal = 5 stair steps (TSG-300) 2. Connect the oscilloscope to TP2, set its range to 200mV/div , and adjust the pedestal level to 0V DC using RV8. 3. Align the cursor with the third step of the 5-stair step. 4. Connect the oscilloscope to TP1 and align both the 0V line and the third step of the stair step with the cursor using RV2 and RV9. 5. Connect the oscilloscope to TP3 and align both the 0V line and the third step of the stair step with the cursor using RV6 and RV7.	TP2(N-1) TP1(P-1) TP3(N-1)  	RV8(L-3) RV2(M-3) RV9(M-3) RV6(M-3) RV7(L-3) TRIG : CH-1

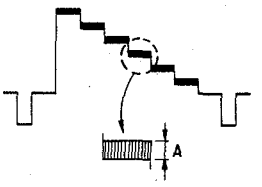
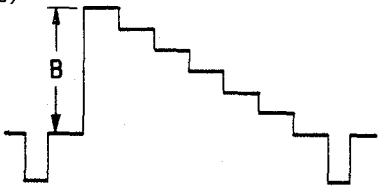
5 - 18. ACK Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE (1410) 2. Measure DC level at TP329, and coincide a cursole to there. 3. Coincide another cursole under 0.4V than B. 4. Adjust RV317 so that DC level at TP331 becomes to lower cursole.	TP329(E-3) TP331(D-2) E1005(GND)(E-3)  A = B-0.4V ± 0.05V	RV317(E-2) TRIG : CH-1

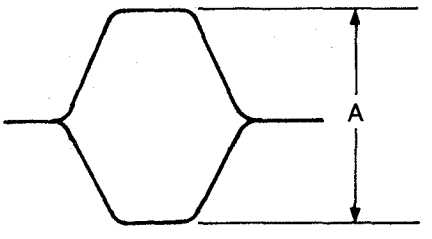
5 - 19. B/W Y Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE (1410) Burst = OFF	TP323(F-3) E305(GND)(F-1)  A = 684mV ± 20mV	RV318(H-6) TRIG : CH-1

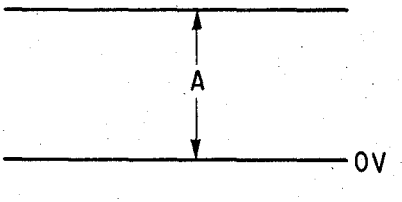
5 - 20. Y/C SEP Y Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE (1410) 2. Minimize A using LV301 and RV302. 3. Adjust B to the specification using RV316.	TP303(L-5)  set the oscilloscope to 20MHz filter IN. A = Minimum (less than 0.05 Vp-p) TP323(G-3)  B = 684mV ± 20mV	LV301(H-6) RV302(J-6) RV316(L-5) • • • B TRIG : CH-1

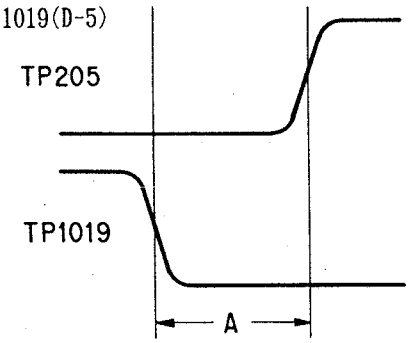
5 - 21. Y/C SEP C Adjustment(VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE (1410) 2. Adjustment A for maximum.	TP321(G-3)  A = 130mV ± 30mVp-p	TI301(H-5)

5 - 22. AGC Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE (1410) 2. Set the AGC switch (DSC-9 board) on the front panel to AUTO. 3. Turn ON/OFF the VIDEO 75Ω switch on the rear panel. 4. Repeat Step 3. until the specification is obtained. 5. After adjustment, AGC switch = MANUAL 75Ω switch = ON	TP4(M-1) E1(GND)(N-3)  A = 1.8 ± 0.02 V (75Ω ON) • • • (1) A = 2.75± 0.05 V (75Ω OFF) • • (2)	RV15(K-1) = 75Ω ON(1) RV14(L-2) = 75Ω OFF(2) TRIG : CH-1

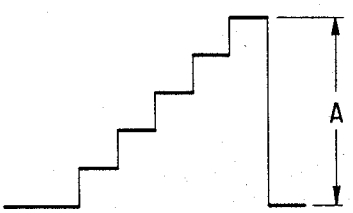
5 - 23. AFC Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE (1410)	TP205(F-5) TP1019(D-5)  A = 240 ± 10 ns	LV1004(C-7) TRIG : CH-1

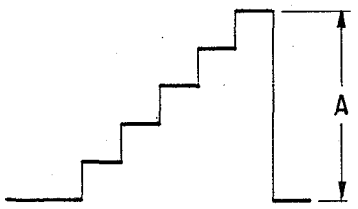
5 - 24. Display IC Clock Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. No signal. 2. Adjust using the frequency counter.	TP1028(B-2) E1003(GND)(C-2) 6.0MHz ± 2KHz	CV1002(C-2) TRIG : CH-1

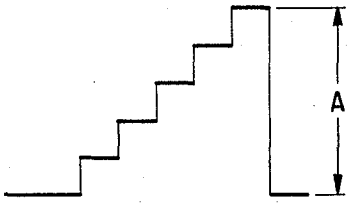
5 - 25. R Level (ENC IN) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R.G.B.(COMPONENT) (TSG-300 : 5-stair step) 2. Set the R volume (DSC-8 board) on the rear panel to the center click position.	TP1001(B-3) E1001(GND)(B-3)  A = 1 ± 0.02 V	RV1001(B-2) TRIG : CH-1

5 - 26. G Level (ENC IN) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R.G.B.(COMPONENT) (TSG-300 : 5-stair step) 2. Set the G volume (DSC-8 board) on the rear panel to the center click position.	TP1002(A-2) E1001(GND)(B-3)  A = 1 ± 0.02 V	RV1002(A-2) TRIG : CH-1

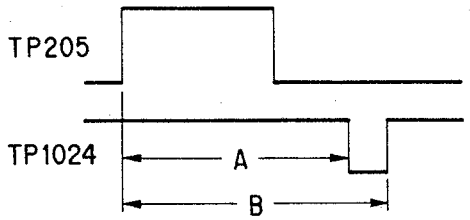
5 - 27. B Level (ENC IN) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R.G.B.(COMPONENT) (TSG-300 : 5-stair step) 2. Set the B volume (DSC-8 board) on the rear panel to the center click position.	TP1003(A-2) E1001(GND)(B-3)  A = 1 ± 0.02 V	RV1003(A-2) TRIG : CH-1

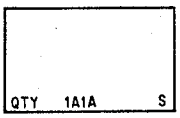
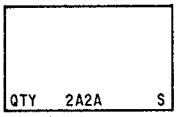
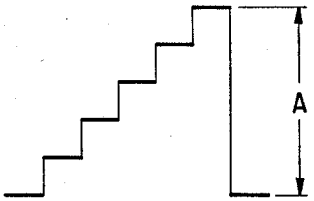
5 - 28. Sync Generator Clock Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. No signal. 2. Adjust using the frequency counter.	TP1027(C-4) E1001(GND)(B-3) 14.31818 MHz ± 50Hz	CV1001(C-4) TRIG : CH-1

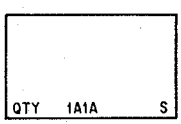
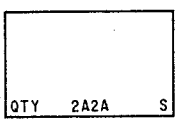
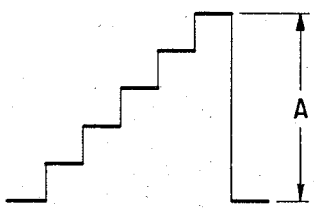
5 - 29. Burst Flag Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO	TP205(F-5) = CH-1 TP1024(C-3) = CH-2  A = 5.6 ± 0.1 μs ・・・(1) B = 8.1 ± 0.1 μs ・・・(2)	RV1007(C-3) (1) RV1008(C-3) (2)

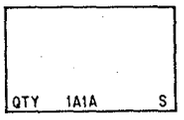
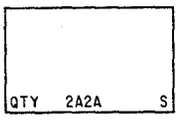
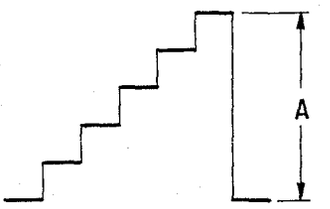
5 - 30. R OUT Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R.G.B(COMPONENT) Input signal = 5-stair step (TSG-300) 2. Terminate the R OUT on the rear panel in 75 Ω and connect the oscilloscope. 3. Set the monitor screen as shown in the figure below.  UP-5200MD  UP-5250MD	 A = 700mV ± 20mV	RV1009(A-6) TRIG : CH-1

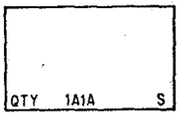
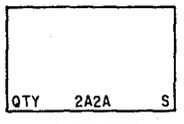
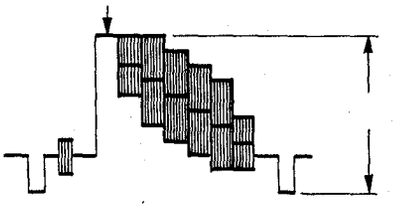
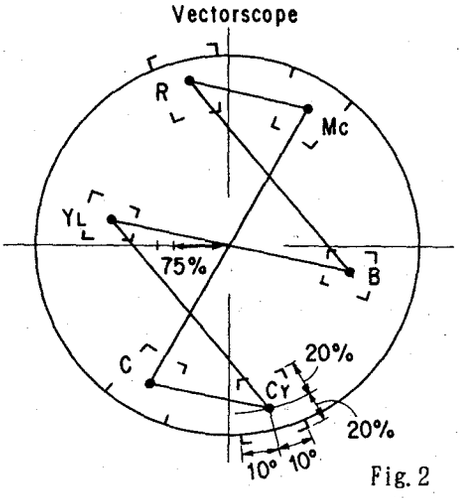
5 - 31. G OUT Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R.G.B(COMPONENT) Input signal = 5-stair step (TSG-300) 2. Terminate the G OUT on the rear panel in 75 Ω and connect the oscilloscope. 3. Set the monitor screen as shown in the figure below.  UP-5200MD  UP-5250MD	 A = 700mV ± 20mV	RV1010(A-6) TRIG : CH-1

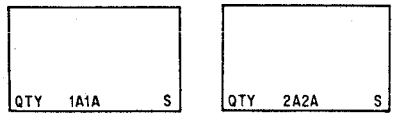
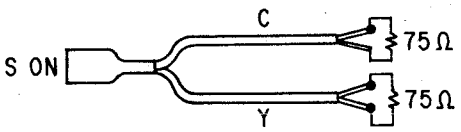
5 - 32. B OUT Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R. G. B(COMPONENT) Input signal = 5-stair step (TSG-300) 2. Terminate the B OUT on the rear panel in 75 Ω and connect the oscilloscope. 3. Set the monitor screen as shown in the figure below.  UP-5200MD  UP-5250MD	 A = 700mV ± 20mV	RV1011(A-6) TRIG : CH-1

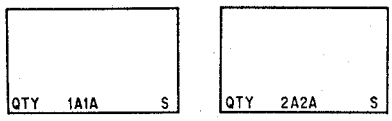
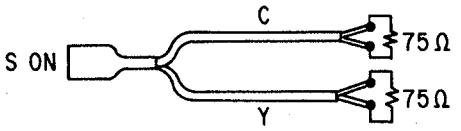
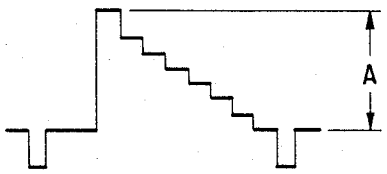
5 - 33. VIDEO OUT Level Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = COMPOSITE Input signal = COLOR BAR (1410) 2. Set the monitor screen as shown in the figure below.  UP-5200MD  UP-5250MD 3. Adjust using RV1012 so that the oscilloscope display matches Fig1. 4. Adjust using the two coils of T I 301 so that the vectorscope display matches Fig 2.	 A = 1.0 ± 0.1 Vp-p Fig. 1 Vectorscope  Fig. 2	RV1012(B-6) T I 301(H-5) TRIG : CH-1

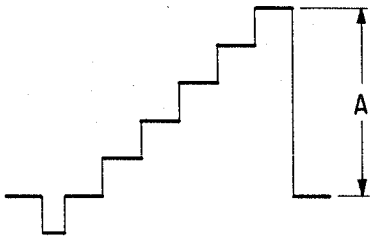
5 - 34. Burst Level (S-VIDEO) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO Input signal = 75% COLOR BAR (TSG-130) 2. Set the monitor screen as shown in the figure below.  UP-5200MD UP-5250MD 3. Terminate the S-VIDEO output (C-OUT) on the rear panel in 75 Ω and connect the oscilloscope. (Make a jig such as that shown in Fig. right.) 4. Adjust using RV1005 so that the burst level of the chroma signal meets the specification. (Fig. 2)	  A = 286mV ± 20mV	RV1005(B-7) TRIG : CH-1

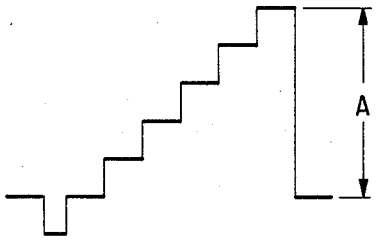
5 - 35. Y Level (S-VIDEO) Adjustment (VA-26 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = S-VIDEO Input signal = 75% COLOR BAR (TSG-130) 2. Set the monitor screen as shown in the figure below.  UP-5200MD UP-5250MD 3. Terminate the S-VIDEO output (Y-OUT) on the rear panel in 75 Ω and connect the oscilloscope. (Make a jig such as that shown in Fig. right.) 4. Adjust using RV1006 so that the level from the pedestal to the white peak of the Y signal meets the specification. (Fig. 2)	  A = 714mV ± 20mV	RV1006(C-7) TRIG : CH-1

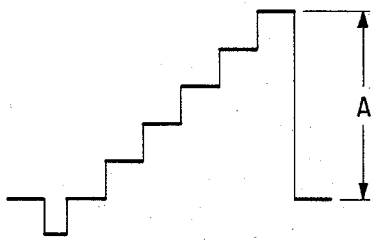
5 - 36. R OUT (Through) Level Adjustment (IF-19 Board)

Condition When Adjustment	Specification	Adjusting Point
1. Input select = R.G.B(COMPONENT) Input signal = 5-stair step (TSG-300) 2. Set the unit to THROUGH. 3. Terminate the R OUT on the rear panel in 75 Ω and connect the oscilloscope.	 A = 700mV ± 20mV	RV401(B-1) TRIG : CH-1

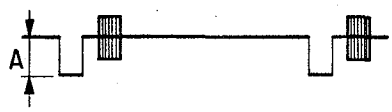
5 - 37. G OUT(Through) Level Adjustment (IF-19 Board)

Condition When Adjusting	Specification	Adjusting Point
1. Input select = R.G.B(COMPONENT) Input signal = 5-Stair steps (TSG-300) 2. Set the unit to THROUGH. 3. Terminate the G OUT on the rear panel in 75 Ω and connect the oscilloscope.	 A = 700mV ± 20mV	RV501(C-1)

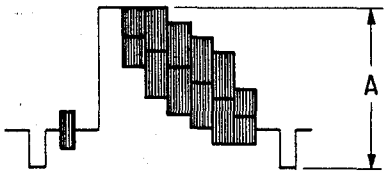
5 - 38. B OUT(Through) Level Adjustment (IF-19 Board)

Condition When Adjusting	Specification	Adjusting Point
1. Input select = R.G.B(COMPONENT) Input signal = 5-Stair steps (TSG-300) 2. Set the unit to THROUGH. 3. Terminate the B OUT on the rear panel in 75 Ω and connect the oscilloscope.	 A = 700mV ± 20mV	RV601(D-1)

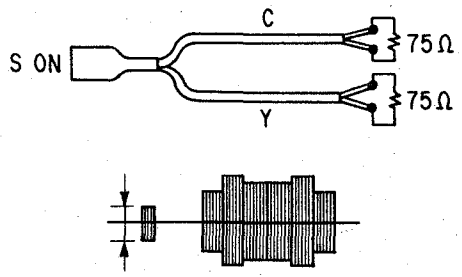
5 - 39. SYNC Level (Through) Adjustment (IF-19 Board)

Condition When Adjusting	Specification	Adjusting Point
1. Input select = VIDEO Input signal = BLACK BURST(1410) 2. Terminate the SYNC OUT on the rear panel in 75 Ω and connect the oscilloscope.	 A = 286mV ± 20mV	RV701(E-1)

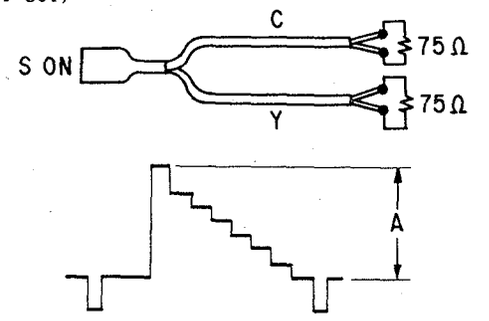
5 - 40. VIDEO OUT(Through) Level Adjustment (IF-19 Board)

Condition When Adjusting	Specification	Adjusting Point
1. Input select = COMPOSITE Input signal = 75% COLOR BAR(1410) 2. Set the AGC switch (DSC-9 board) on the front panel to AUTO. 3. After adjustment , set the AGC switch back to MANUAL.	VIDEO OUT (Rear panel)  A = 1.0 ± 0.1Vp-p	RV301(H-1) TRIG : CH-1

5 - 41. Burst Level (S-VIDEO) Through Adjustment (IF-19 Board)

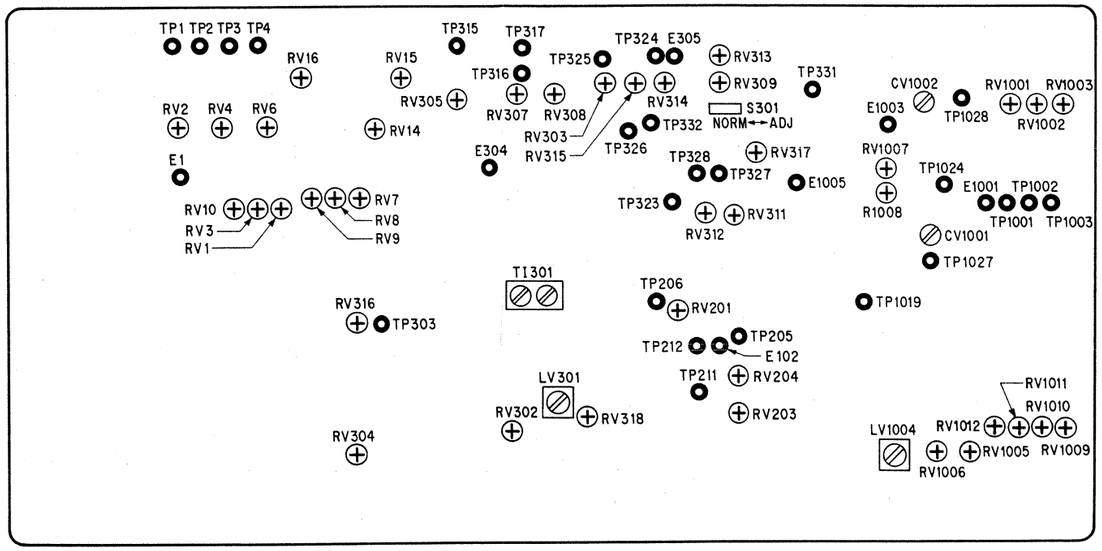
Condition When Adjusting	Specification	Adjusting Point
1. Input select = S-VIDEO Input signal = 75% COLOR BAR (TSG-130) 2. Terminate the S-VIDEO output (C-OUT) on the rear panel in 75Ω and connect the oscilloscope. (Make a jig such as that shown in Fig. right.) 3. Adjust using RV101 so that the burst level of the chroma signal meets the specification.	S-VIDEO OUT (Rear panel) (C OUT)  A = 286mV ± 20mV	RV101(F-1) TRIG : CH-1

5 - 42. Y Level (S-VIDEO) Through Adjustment (IF-19 Board)

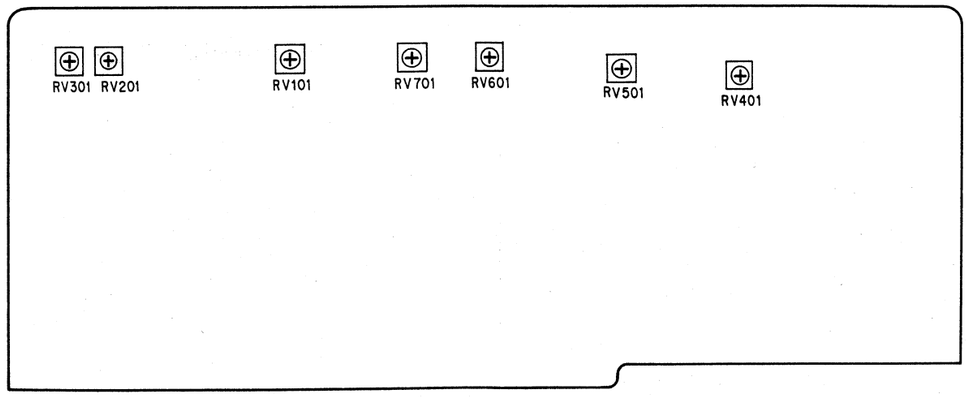
Condition When Adjusting	Specification	Adjusting Point
1. Input select = S-VIDEO Input signal = 75% COLOR BAR (TSG-130) 2. Terminate the S-VIDEO output (Y-OUT) on the rear panel in 75Ω and connect the oscilloscope. (Make a jig such as that shown in Fig. right.) 3. Adjust using RV201 so that the burst level of the chroma signal meets the specification.	S-VIDEO OUT (Rear panel) (Y OUT)  A = 714mV ± 20mV	RV201(H-1) TRIG : CH-1

5-43. ADJUSTMENT ELEMENT LOCATION

VA-26 Board (Component Side)



IF-19 Board (Component Side)



SECTION 6
EXPLODED VIEWS

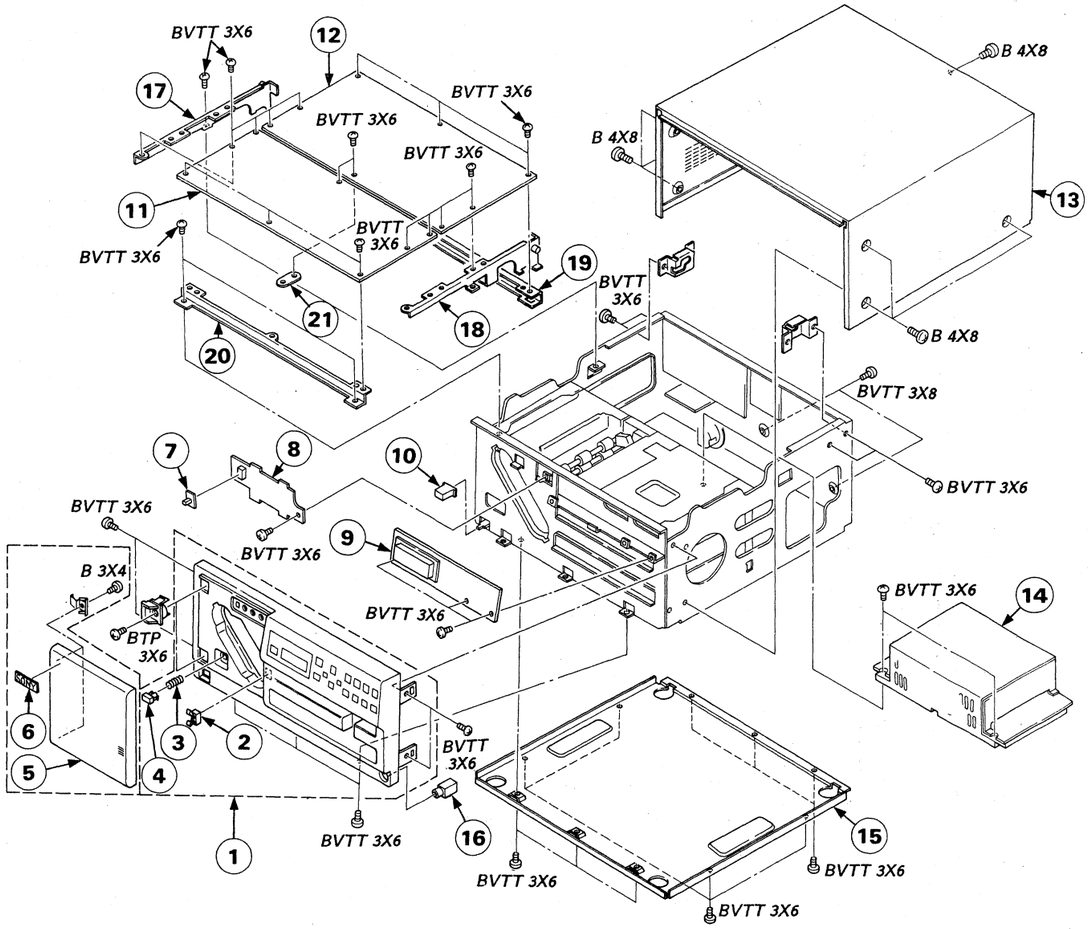
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

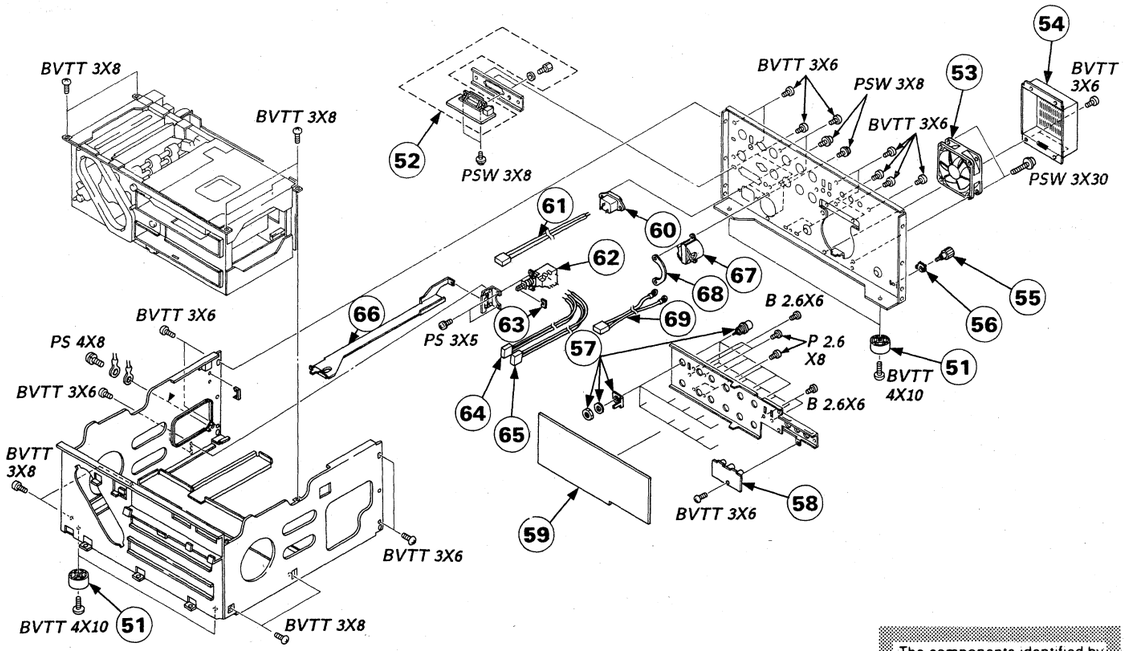
Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

6-1. CABINET



Ref.No	Part No.	Description	Remark
1	*A-8266-079-A	(5200MD) PANEL ASSY, FRONT	Incl. 2-4
1	*A-8266-080-A	(5250MD) PANEL ASSY, FRONT	Incl. 2-4
2	4-392-036-01	CATCH, PUSH	
3	4-864-519-02	SPRING, COMPRESSION	
4	3-725-631-01	BUTTON, CARTRIDGE	
5	A-8266-081-A	DOOR ASSY, RIBBON	Incl. 6
6	3-718-322-02	EMBLEM, SONY	
7	3-725-635-01	KNOB (AGC), SLIDE	
8	*A-8276-144-A	MOUNTED PCB, DSC-8	
9	*A-8276-147-A	MOUNTED PCB, KY-12	
10	2-431-568-31	BUTTON, POWER	
11	*A-8271-104-A	(5200MD) FMY-8 BOARD, COMPLETE	
11	*A-8271-105-A	(5250MD) FMY-8 BOARD, COMPLETE	
12	*A-8271-106-A	VA-26 BOARD, COMPLETE	
13	*3-173-857-01	CASE, UPPER	
14	⚠ *1-413-688-11	REGULATOR, SWITCHING (VTR-P3A)	
15	*3-725-637-03	PLATE, BOTTOM	
16	1-507-195-21	SPECIAL REMOTE CONTROL JACK	
17	*X-3166-421-1	BRACKET (L) ASSY, PC BOARD	
18	*X-3166-420-1	BRACKET (R) ASSY, PC BOARD	
19	*3-173-082-02	BRACKET, PC BOARD SUPPORT	
20	*3-173-081-01	BRACKET (B), PC BOARD	
21	*3-173-858-01	JOINT	

6-2. CHASSIS

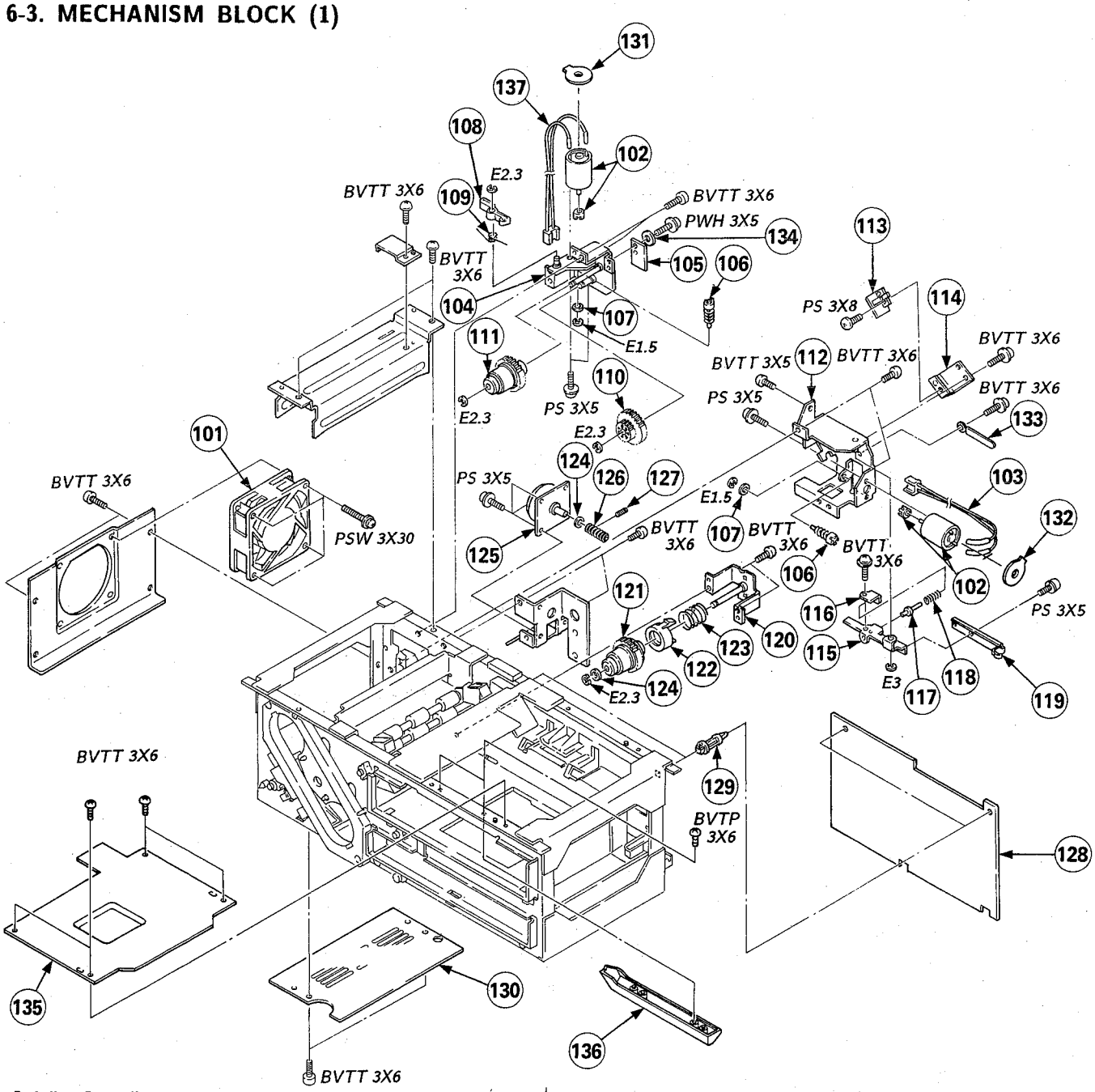


The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

Ref.No	Part No.	Description	Remark
51	X-3316-715-1	FOOT ASSY	
52	*A-8276-145-A	MOUNTED PCB, IF-21	
53	1-541-593-22	MOTOR, DC FAN	
54	*3-173-085-01	COVER, FAN	
55	X-2068-004-0	TERMINAL ASSY	
56	2-068-008-00	WASHER	
57	1-562-227-21	RECEPTACLE, BNC	
58	*A-8276-146-A	MOUNTED PCB, DSC-9	
59	*A-8271-103-A	IF-19 BOARD, COMPLETE	
60	⚠ 1-580-375-11	INLET 3P	
61	⚠ *1-949-387-11	HARNESS (AC(IN))	
62	⚠ 1-554-880-11	SWITCH, PUSH (AC POWER)(1 KEY)	
63	3-725-616-01	STOPPER, ROD	
64	⚠ *1-949-385-11	HARNESS (AC(SW1))	
65	⚠ *1-949-386-11	HARNESS (AC(SW2))	
66	*3-173-092-01	PLATE, LOD, SW	
67	⚠ 1-509-841-00	CONNECTOR, AC OUTLET	
68	*3-651-491-00	NUT, PLATE (AC)	
69	⚠ *1-940-905-12	HARNESS, AC (OUT)	

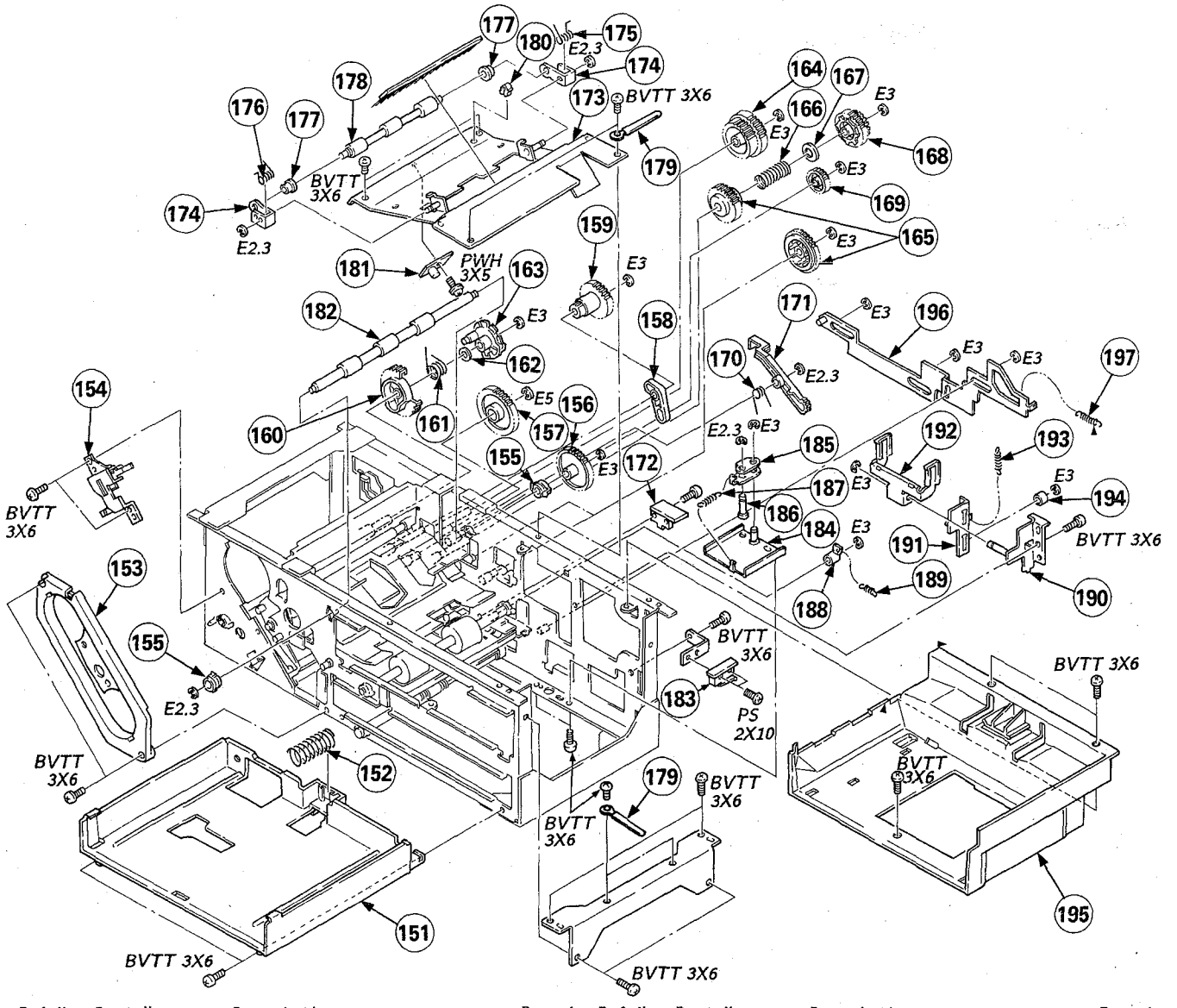
6-3. MECHANISM BLOCK (1)



Ref.No	Part No.	Description	Remark
101	1-541-593-22	MOTOR, DC FAN (M904)	
102	A-8262-092-A	MOTOR ASSY, DC	
103	*1-949-368-11	HARNESS B(HM)	
104	*X-3725-621-1	BRACKET ASSY, TAKE-UP BLOCK	
105	*A-8276-142-A	MOUNTED PCB, SW-30	
106	X-3725-616-1	WORM ASSY	
107	3-701-437-21	WASHER	
108	3-725-772-01	LEVER, EJECT	
109	3-725-773-01	SPRING	
110	3-725-771-01	GEAR, LIMITER IDLER	
111	A-8262-090-A	LIMITER (A) BLOCK ASSY	
112	*X-3725-627-1	PLATE ASSY, CAM, HEAD	
113	*A-8276-140-A	MOUNTED PCB, SW-31	
114	*3-725-757-01	BRACKET, CAM SENSOR	
115	*3-725-750-01	LEVER (A), GEAR SHIFT	
116	*3-725-751-01	BRACKET, SHIFT LEVER	
117	*3-725-752-02	SHAFT, GEAR SHIFT CAM	
118	3-641-622-00	SPRING, COMPRESSION	

Ref.No	Part No.	Description	Remark
119	*3-725-806-01	LEVER (B), GEAR SHIFT	
120	*X-3725-617-1	BRACKET ASSY, BRAKE	
121	A-8262-088-A	LIMITER (B) BLOCK ASSY	
122	3-725-758-01	HOUSING, SPRING	
123	3-725-759-01	SPRING, COMPRESSION	
124	3-701-439-11	WASHER	
125	1-541-594-11	MOTOR, STEPPING (M901)	
126	3-725-807-01	GEAR, WORM	
127	3-701-505-00	SET SCREW, DOUBLE POINT 3X3	
128	*A-8271-102-A	SY-9 BOARD, COMPLETE	
129	*4-914-008-01	HOLDER, PCB	
130	*3-725-827-01	REINFORCEMENT (E)	
131	*1-641-669-11	SU-4 BOARD	
132	*1-641-670-11	SU-5 BOARD	
133	*3-701-822-00	HOLDER, WIRE	
134	3-701-439-41	WASHER	
135	*3-173-087-01	PLATE, SHIELD, MECHANICAL	
136	*3-173-088-01	GUIDE, SUB	
137	*1-949-367-11	HARNESS A (RM)	

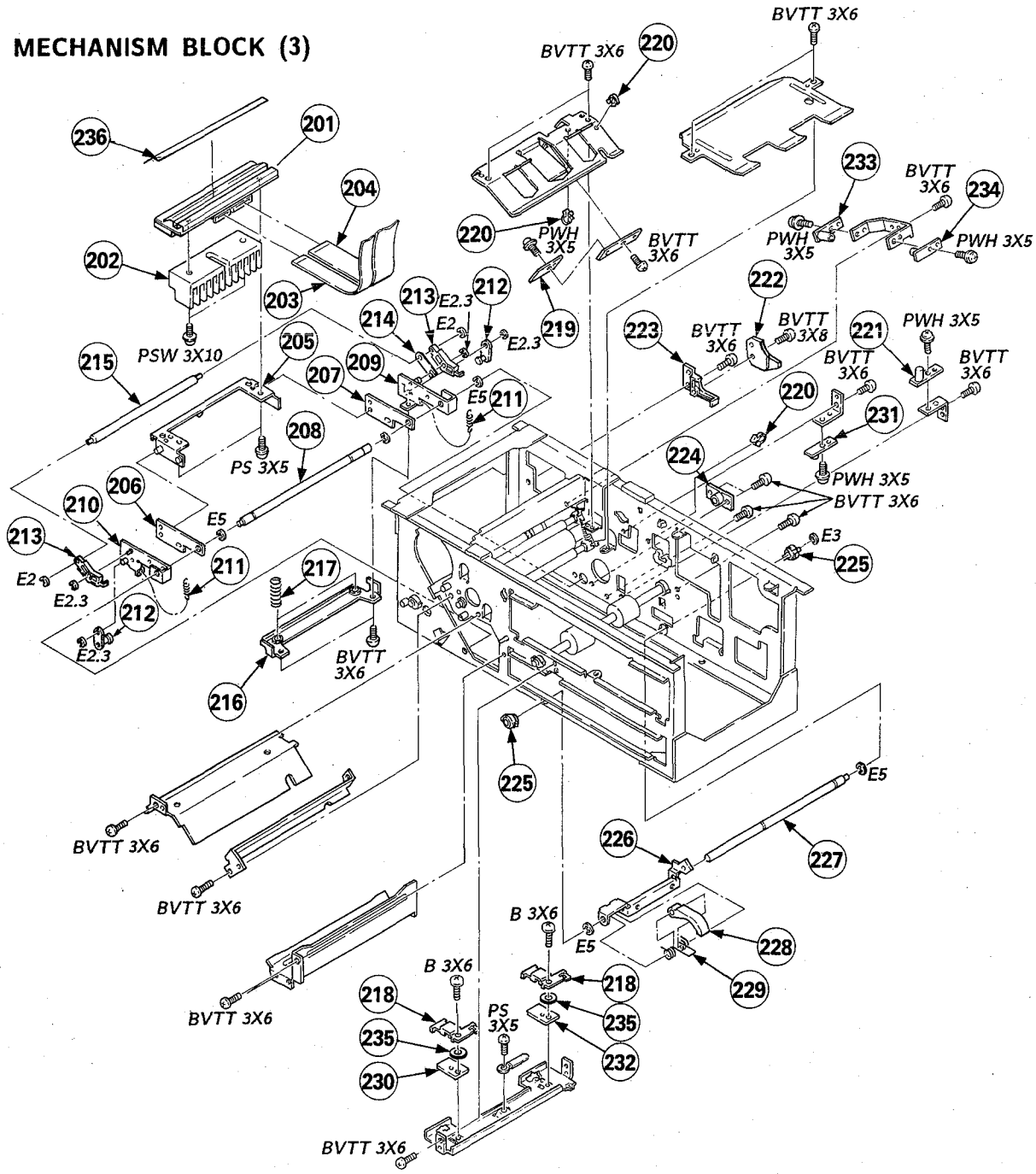
6-4. MEHCANISM BLOCK (2)



Ref.No	Part No.	Description	Remark
151	*3-725-661-12	RETAINER, TRAY	
152	3-725-662-01	SPRING, COMPRESSION	
153	*3-725-640-11	GUIDE, CARTRIDGE ENTRANCE	
154	*A-8262-078-A	LOCK ASSY, CARTRIDGE	
155	3-725-696-01	BEARING (2)	
156	3-725-649-01	GEAR	
157	3-725-655-01	GEAR, PLATEN	
158	3-725-811-01	LEVER, CAM	
159	3-725-658-01	WHEEL, WORM, HEAD	
160	3-725-656-01	GEAR, HEAD CAM	
161	3-725-808-01	SPRING, TORSION	
162	3-701-444-11	WASHER, 6	
163	3-725-657-01	CAM, HEAD	
164	3-725-654-01	WHEEL, WORM	
165	3-725-650-01	GEAR, IDLER	
166	3-725-652-01	SPRING, COMPRESSION	
167	3-701-446-21	WASHER, 8	
168	3-725-653-01	GEAR, SHIFT	
169	3-725-651-01	GEAR, SMALL	
170	3-725-664-01	SPRING, TORSION	
171	3-725-663-01	ARM, BRAKE	
172	*A-8276-143-A	MOUNTED PCB, SW-35	
173	*X-3725-612-1	GUIDE BLOCK ASSY	

Ref.No	Part No.	Description	Remark
174	*3-725-734-01	ARM, ROLLER	
175	3-725-735-01	SPRING, TORSION	
176	3-725-736-01	SPRING, TORSION	
177	3-725-683-01	BEARING, ROLLER	
178	3-725-737-01	ROLLER (UPPER)	
179	*3-701-822-00	HOLDER, WIRE	
180	3-660-815-00	CLIP, CABLE	
181	*A-8276-138-A	MOUNTED PCB, PTC-3	
182	3-725-648-01	ROLLER (LOWER)	
183	*A-8276-137-A	MOUNTED PCB, S-8	
184	*X-3725-610-1	BRACKET ASSY, LOCK BLOCK	
185	*3-725-723-01	PLATE, LOCK	
186	*3-725-724-01	SHAFT, LOCK	
187	3-725-725-01	SPRING, TENSION	
188	3-725-659-01	LEVER, REVERSE PREVENTION	
189	3-725-666-01	SPRING, TENSION	
190	*X-3725-613-1	BRACKET ASSY	
191	*X-3725-614-1	LEVER ASSY, MIDWAY	
192	*X-3725-615-1	PLATE ASSY	
193	3-725-741-01	SPRING, TENSION	
194	3-725-740-01	ROLLER	
195	*3-725-820-11	RETAINER, TRAY	
196	*X-3725-603-1	JOINT ASSY	
197	3-725-669-01	SPRING, TENSION	

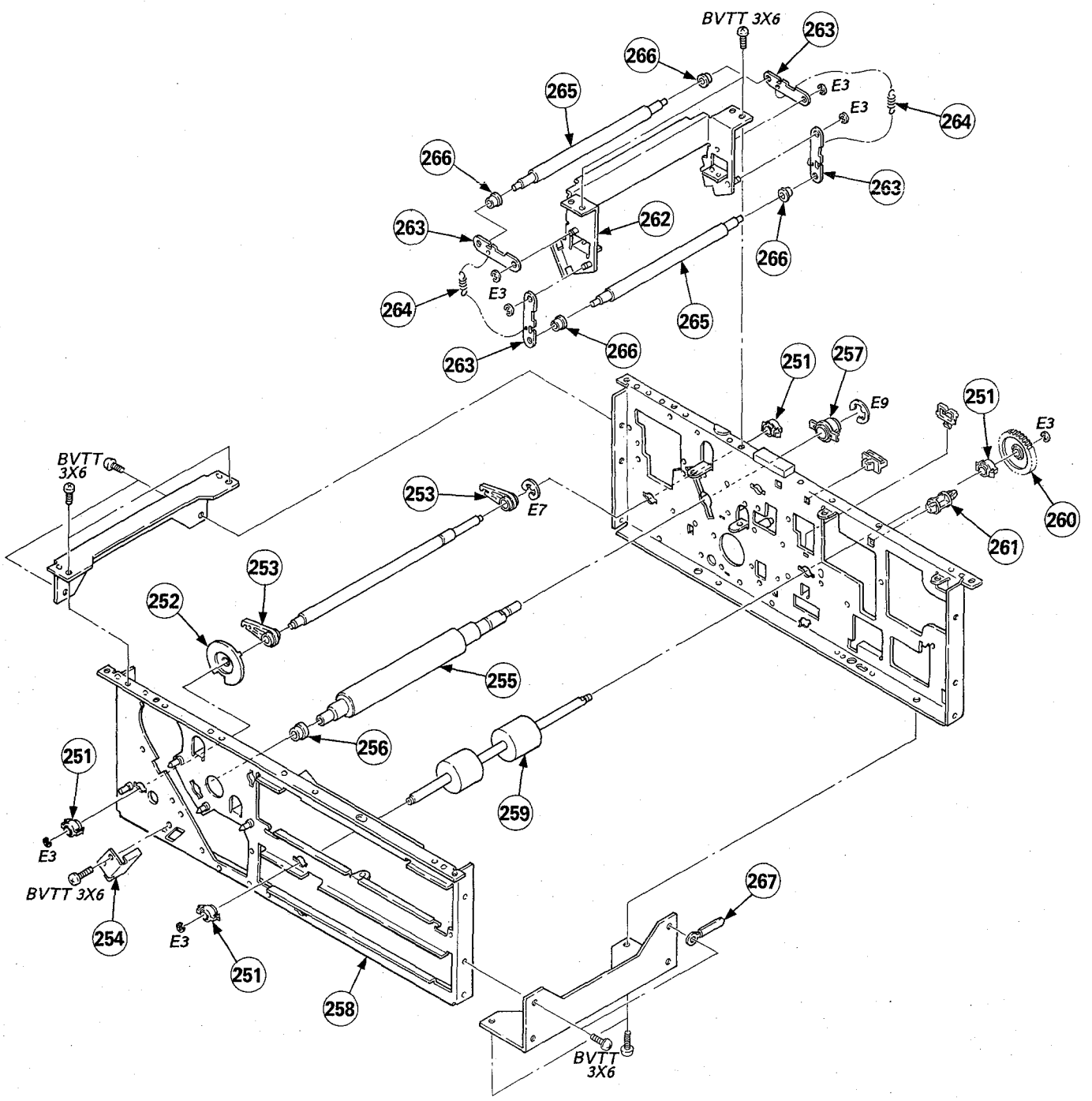
6-5. MECHANISM BLOCK (3)



Ref.No	Part No.	Description	Remark
201	1-543-881-11	HEAD, THERMAL (TH55212)	
202	*3-725-812-01	FIN, HEAD	
203	*1-690-502-11	WIRE, FLAT TYPE (10 CORE)	
204	*1-559-969-11	WIRE, FLAT TYPE (16 CORE)	
205	*X-3725-605-1	STAY ASSY, HEAD	
206	*3-725-692-01	ARM (A) (RIGHT), HEAD	
207	*3-725-693-01	ARM (A) (LEFT), HEAD	
208	*3-725-694-01	SHAFT, HEAD ARM	
209	*X-3725-606-1	ARM (B) (LEFT) BLOCK ASSY,HEAD	
210	*X-3725-608-1	ARM (B) (RIGHT)BLOCK ASSY,HEAD	
211	3-725-702-01	SPRING, TENSION	
212	*X-3725-607-1	ARM (B) BLOCK ASSY, HEAD U/D	
213	3-725-701-01	ARM, RIBBON ROLLER	
214	3-725-834-01	BRACKET, ROLLER GROUND	
215	*3-725-690-01	ROLLER, RIBBON	
216	*3-725-691-01	PRESSER, HEAD	
217	3-725-695-01	SPRING, COMPRESSION	
218	*3-725-720-01	COVER, PC BOARD	
219	*A-8276-129-A	MOUNTED PCB, PTC-4	

Ref.No	Part No.	Description	Remark
220	3-660-815-00	CLIP, CABLE	
221	*A-8276-131-A	MOUNTED PCB, PTC-25	
222	*A-8276-134-A	MOUNTED PCB, SW-32	
223	3-725-718-01	BRACKET (C), SENSOR	
224	3-725-660-01	BEARING, HEAD SHAFT	
225	3-725-696-01	BEARING (2)	
226	*X-3725-609-1	BRACKET ASSY	
227	*3-725-709-01	SHAFT	
228	3-725-710-02	LEVER	
229	3-725-711-01	SPRING (A), TORSION	
230	*A-8276-135-A	MOUNTED PCB, SW-36	
231	*A-8276-130-A	MOUNTED PCB, PTC-26	
232	*A-8276-136-A	MOUNTED PCB, SW-37	
233	*A-8276-133-A	MOUNTED PCB, PTC-23	
234	*A-8276-132-A	MOUNTED PCB, PTC-24	
235	3-701-439-41	WASHER	
236	3-174-628-01	COVER, HEAD	

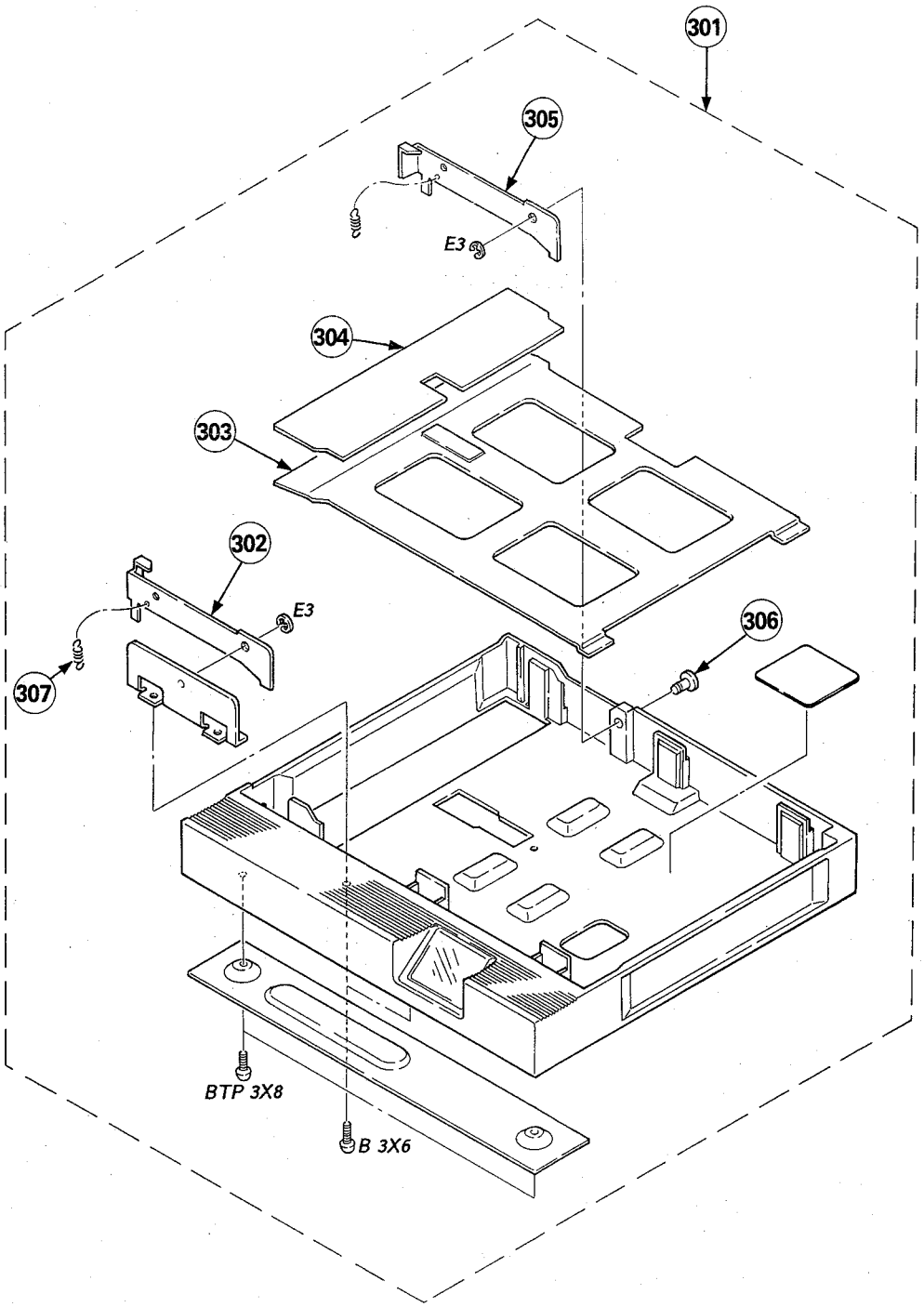
6-6. MECHANISM BLOCK (4)



Ref.No	Part No.	Description	Remark
251	3-725-696-01	BEARING (2)	
252	3-725-689-01	STOPPER, EJECT	
253	3-725-688-01	ARM (A), HEAD U/D	
254	*3-725-668-01	STOPPER, HEAD	
255	3-725-646-01	PLATEN	
256	3-725-823-01	BEARING (3)	
257	3-725-697-01	BEARING (1)	
258	*X-3725-629-3	CHASSIS (FRONT) ASSY, MECHANICAL	
259	3-725-647-01	ROLLER	

Ref.No	Part No.	Description	Remark
260	3-725-698-01	GEAR	
261	*4-332-236-00	SUPPORT, HEAT SINK	
262	*X-3725-604-1	BRACKET ASSY, PINCH ROLLER ARM	
263	*3-725-682-01	ARM, PINCH ROLLER	
264	*3-437-282-00	SPRING, COMPRESSION	
265	*3-725-684-01	PINCH ROLLER	
266	3-172-911-01	BEARING (M), ROLLER	
267	*3-701-822-00	HOLDER, WIRE	

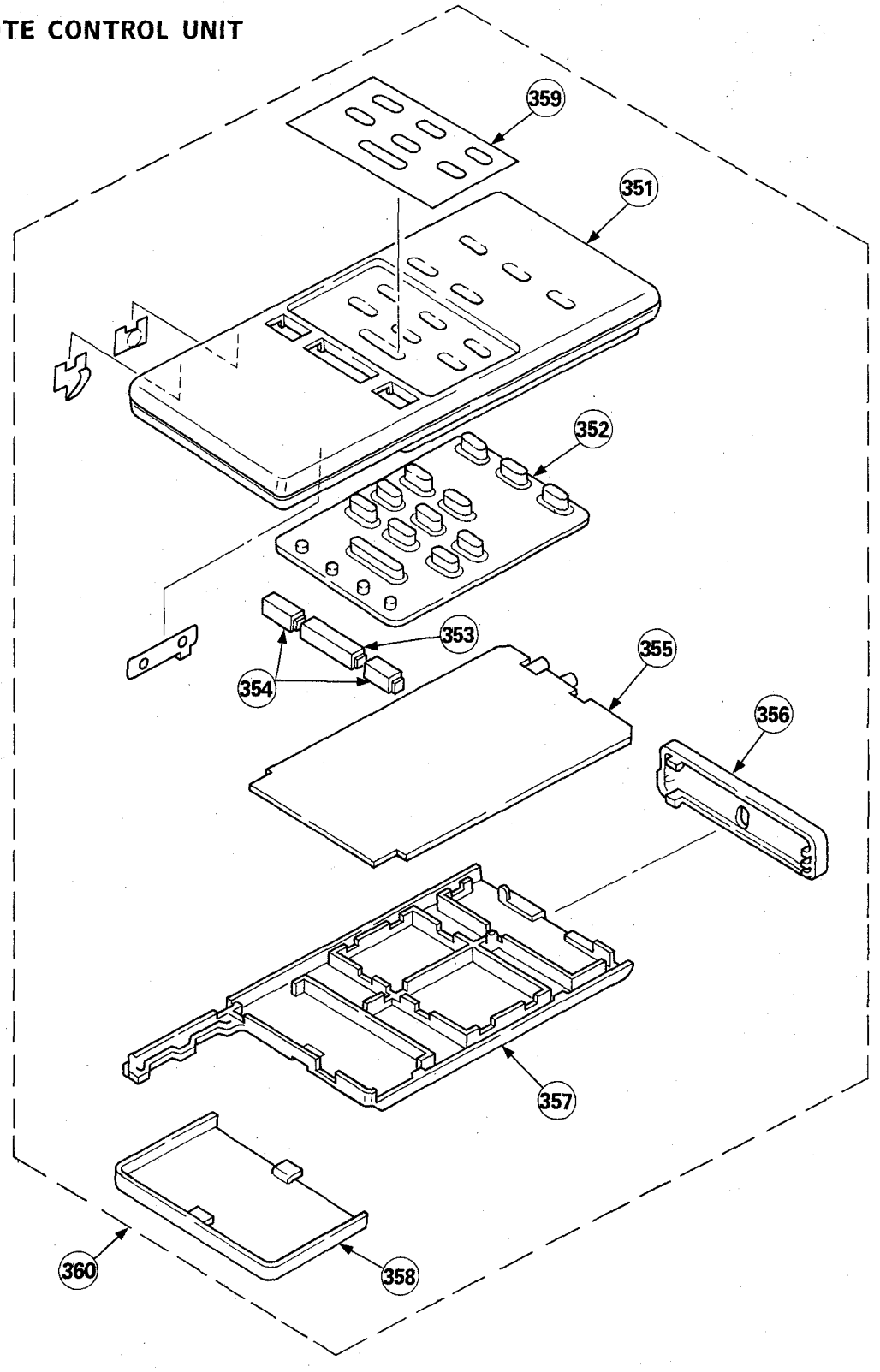
6-7. TRAY ASSEMBLY



Ref.No	Part No.	Description	Remark
301	A-8261-250-A	TRAY ASSY (W)	Incl. 302-307
302	*3-725-787-01	CLAW (LEFT)	
303	*3-725-785-01	PLATE	
304	*3-725-790-01	SHEET, LEATHER	
305	*3-725-786-01	CLAW (RIGHT)	

Ref.No	Part No.	Description	Remark
306	*3-725-788-01	SHAFT (2)	
307	*3-725-791-01	SPRING, TENSION	

6-8. REMOTE CONTROL UNIT



Ref.No	Part No.	Description	Remark
351	9-901-744-01	ORNAMENTAL PANEL	
352	9-901-745-01	SHEET, RUBBER	
353	2-290-632-00	BUTTON, PUSH (L)	
354	2-290-633-00	BUTTON, PUSH (R)	
355	9-997-457-01	SR-W2 BOARD	
356	9-997-453-01	PANEL, FRONT	
357	2-290-611-00	CASE, BOTTOM	
358	2-290-606-51	COVER, BATTERY	
359	9-997-456-01	LABEL, MODEL NUMBER	
360	1-465-508-21	COMMANDER, REMOTE(RM-5100)	

SECTION 7
ELECTRICAL PARTS LIST

VA-26

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

Ref.No	Part No.	Description			Remark
	*A-8271-106-A	VA-26 BOARD, COMPLETE			
	**********				
A2	*3-683-631-01	CLAMP			
A3	*3-683-631-01	CLAMP			
		<CAPACITOR>			
C1	1-124-234-00	ELECT	22MF	20% 16V	
C2	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	
C3	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C4	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C5	1-163-089-00	CERAMIC CHIP	6PF	0.5PF 50V	
C6	1-163-237-11	CERAMIC CHIP	27PF	5% 50V	
C7	1-126-096-11	ELECT	10MF	20% 25V	
C8	1-163-085-00	CERAMIC CHIP	2PF	0.25PF 50V	
C9	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C10	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C11	1-163-085-00	CERAMIC CHIP	2PF	0.25PF 50V	
C12	1-163-089-00	CERAMIC CHIP	6PF	0.5PF 50V	
C13	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C14	1-124-589-11	ELECT	47MF	20% 16V	
C15	1-124-234-00	ELECT	22MF	20% 16V	
C16	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	
C17	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C18	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C19	1-163-089-00	CERAMIC CHIP	6PF	0.5PF 50V	
C20	1-163-237-11	CERAMIC CHIP	27PF	5% 50V	
C21	1-126-096-11	ELECT	10MF	20% 25V	
C22	1-163-085-00	CERAMIC CHIP	2PF	0.25PF 50V	
C23	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C24	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C25	1-163-085-00	CERAMIC CHIP	2PF	0.25PF 50V	
C26	1-163-089-00	CERAMIC CHIP	6PF	0.5PF 50V	
C27	1-124-234-00	ELECT	22MF	20% 16V	
C28	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	
C29	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C30	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C31	1-163-089-00	CERAMIC CHIP	6PF	0.5PF 50V	
C32	1-163-237-11	CERAMIC CHIP	27PF	5% 50V	
C33	1-126-096-11	ELECT	10MF	20% 25V	
C34	1-163-085-00	CERAMIC CHIP	2PF	0.25PF 50V	
C35	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C36	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C37	1-163-085-00	CERAMIC CHIP	2PF	0.25PF 50V	
C38	1-163-089-00	CERAMIC CHIP	6PF	0.5PF 50V	
C39	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C40	1-124-589-11	ELECT	47MF	20% 16V	
C41	1-124-589-11	ELECT	47MF	20% 16V	
C42	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C43	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C44	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C45	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C46	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C47	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C48	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C49	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C50	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C51	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C53	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C54	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C55	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C56	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C57	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C58	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C59	1-124-589-11	ELECT	47MF	20% 16V	
C60	1-124-589-11	ELECT	47MF	20% 16V	
C61	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C62	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C63	1-126-301-11	ELECT	1MF	20% 50V	
C64	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C65	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C66	1-164-232-11	CERAMIC CHIP	0.01MF	10% 50V	
C67	1-126-301-11	ELECT	1MF	20% 50V	
C68	1-164-232-11	CERAMIC CHIP	0.01MF	10% 50V	
C69	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C70	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C71	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C72	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C73	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C75	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C101	1-124-234-00	ELECT	22MF	20% 16V	
C102	1-124-234-00	ELECT	22MF	20% 16V	
C103	1-124-234-00	ELECT	22MF	20% 16V	
C104	1-124-234-00	ELECT	22MF	20% 16V	
C105	1-124-234-00	ELECT	22MF	20% 16V	
C106	1-124-234-00	ELECT	22MF	20% 16V	
C107	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C108	1-124-234-00	ELECT	22MF	20% 16V	
C109	1-124-234-00	ELECT	22MF	20% 16V	
C110	1-163-037-11	CERAMIC CHIP	0.022MF	10% 25V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C112	1-126-301-11	ELECT	1MF	20% 50V	
C113	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C114	1-124-234-00	ELECT	22MF	20% 16V	
C115	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C116	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C117	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C201	1-124-234-00	ELECT	22MF	20% 16V	
C214	1-163-038-00	CERAMIC CHIP	0.1MF	25V	
C215	1-126-163-11	ELECT	4.7MF	20% 25V	
C216	1-163-227-11	CERAMIC CHIP	10PF	5% 50V	
C217	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	

VA-26

Ref.No	Part No.	Description			Remark
C218	1-126-157-11	ELECT 10MF		20%	16V
C219	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C220	1-126-157-11	ELECT 10MF		20%	16V
C221	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C222	1-130-491-00	MYLAR 0.047MF		5%	50V
C223	1-163-133-00	CERAMIC CHIP 470PF		5%	50V
C224	1-163-133-00	CERAMIC CHIP 470PF		5%	50V
C225	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C226	1-126-157-11	ELECT 10MF		20%	16V
C227	1-163-275-11	CERAMIC CHIP 0.001MF		5%	50V
C228	1-126-157-11	ELECT 10MF		20%	16V
C229	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C230	1-163-227-11	CERAMIC CHIP 10PF		5%	50V
C240	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C241	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C243	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C244	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C245	1-130-495-00	MYLAR 0.1MF		5%	50V
C246	1-130-499-00	MYLAR 0.22MF		5%	50V
C247	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C248	1-126-157-11	ELECT 10MF		20%	16V
C302	1-124-234-00	ELECT 22MF		20%	16V
C303	1-163-237-11	CERAMIC CHIP 27PF		5%	50V
C304	1-126-157-11	ELECT 10MF		20%	16V
C305	1-163-115-00	CERAMIC CHIP 82PF		5%	50V
C306	1-126-301-11	ELECT 1MF		20%	50V
C307	1-126-301-11	ELECT 1MF		20%	50V
C308	1-163-125-00	CERAMIC CHIP 220PF		5%	50V
C309	1-163-115-00	CERAMIC CHIP 82PF		5%	50V
C310	1-163-121-00	CERAMIC CHIP 150PF		5%	50V
C311	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C312	1-163-263-11	CERAMIC CHIP 330PF		5%	50V
C313	1-163-251-11	CERAMIC CHIP 100PF		5%	50V
C314	1-124-589-11	ELECT 47MF		20%	16V
C315	1-126-157-11	ELECT 10MF		20%	16V
C316	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C317	1-163-037-11	CERAMIC CHIP 0.022MF		10%	25V
C318	1-163-037-11	CERAMIC CHIP 0.022MF		10%	25V
C319	1-124-589-11	ELECT 47MF		20%	16V
C320	1-124-234-00	ELECT 22MF		20%	16V
C321	1-124-234-00	ELECT 22MF		20%	16V
C322	1-124-589-11	ELECT 47MF		20%	10V
C323	1-124-589-11	ELECT 47MF		20%	16V
C324	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C325	1-124-589-11	ELECT 47MF		20%	16V
C326	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C327	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C328	1-124-589-11	ELECT 47MF		20%	16V
C329	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C330	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C331	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C333	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C334	1-124-234-00	ELECT 22MF		20%	16V
C335	1-124-234-00	ELECT 22MF		20%	16V
C336	1-163-241-11	CERAMIC CHIP 39PF		5%	50V
C337	1-163-241-11	CERAMIC CHIP 39PF		5%	50V
C338	1-124-234-00	ELECT 22MF		20%	16V
C339	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C340	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C341	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C342	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C343	1-124-234-00	ELECT 22MF		20%	16V
C345	1-124-589-11	ELECT 47MF		20%	16V
C346	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C347	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C348	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C349	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C350	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C351	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C352	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C353	1-124-234-00	ELECT 22MF		20%	16V
C354	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C355	1-124-234-00	ELECT 22MF		20%	16V
C356	1-124-234-00	ELECT 22MF		20%	16V
C357	1-124-234-00	ELECT 22MF		20%	16V
C360	1-124-589-11	ELECT 47MF		20%	16V
C361	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C362	1-124-234-00	ELECT 22MF		20%	25V
C363	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C364	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C365	1-124-234-00	ELECT 22MF		20%	16V
C366	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C367	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C368	1-124-234-00	ELECT 22MF		20%	25V
C369	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C370	1-124-589-11	ELECT 47MF		20%	50V
C371	1-124-589-11	ELECT 47MF		20%	25V
C372	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C373	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C374	1-124-589-11	ELECT 47MF		20%	16V
C375	1-136-173-00	FILM 0.47MF		5%	16V
C376	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C378	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C379	1-124-234-00	ELECT 22MF		20%	16V
C380	1-124-234-00	ELECT 22MF		20%	25V
C381	1-124-234-00	ELECT 22MF		20%	50V
C382	1-124-234-00	ELECT 22MF		20%	25V
C383	1-124-234-00	ELECT 22MF		20%	25V
C384	1-124-234-00	ELECT 22MF		20%	25V
C385	1-126-163-11	ELECT 4.7MF		20%	50V
C386	1-130-491-00	MYLAR 0.047MF		5%	50V
C387	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C388	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C389	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C390	1-163-099-00	CERAMIC CHIP 18PF		5%	50V
C391	1-163-235-11	CERAMIC CHIP 22PF		5%	50V
C392	1-163-037-11	CERAMIC CHIP 0.022MF		10%	50V
C393	1-163-037-11	CERAMIC CHIP 0.022MF		10%	25V
C394	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C395	1-126-301-11	ELECT 1MF		20%	25V
C396	1-126-301-11	ELECT 1MF		20%	16V
C398	1-163-235-11	CERAMIC CHIP 22PF		5%	25V
C399	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C400	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C401	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C402	1-124-589-11	ELECT 47MF		20%	25V
C501	1-163-038-00	CERAMIC CHIP 0.1MF			16V
C502	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C503	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C504	1-124-589-11	ELECT 47MF		20%	16V

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark
C505	1-163-038-00	CERAMIC CHIP	0.1MF		16V
C506	1-124-589-11	ELECT	47MF	20%	25V
C507	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C508	1-163-038-00	CERAMIC CHIP	0.1MF		16V
C509	1-124-589-11	ELECT	47MF	20%	16V
C510	1-124-589-11	ELECT	47MF	20%	
C511	1-163-038-00	CERAMIC CHIP	0.1MF		
C512	1-163-038-00	CERAMIC CHIP	0.1MF		
C513	1-124-589-11	ELECT	47MF	20%	
C514	1-124-589-11	ELECT	47MF	20%	
C515	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C516	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C517	1-124-120-11	ELECT	220MF	20%	16V
C518	1-124-120-11	ELECT	220MF	20%	16V
C519	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C520	1-126-176-11	ELECT	220MF	20%	10V
C521	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C522	1-126-176-11	ELECT	220MF	20%	10V
C523	1-124-589-11	ELECT	47MF	20%	16V
C524	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C525	1-124-589-11	ELECT	47MF	20%	16V
C526	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C527	1-124-589-11	ELECT	47MF	20%	16V
C528	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C529	1-124-589-11	ELECT	47MF	20%	16V
C530	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C531	1-124-589-11	ELECT	47MF	20%	16V
C532	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C533	1-124-589-11	ELECT	47MF	20%	16V
C536	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C601	1-124-234-00	ELECT	22MF	20%	16V
C602	1-126-157-11	ELECT	10MF	20%	16V
C603	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C604	1-126-157-11	ELECT	10MF	20%	16V
C605	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C606	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C628	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C636	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C637	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1001	1-124-635-00	ELECT	220MF	20%	6.3V
C1002	1-124-455-00	ELECT	100MF	20%	16V
C1003	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1004	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1005	1-124-635-00	ELECT	220MF	20%	6.3V
C1006	1-124-455-00	ELECT	100MF	20%	16V
C1007	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1008	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1009	1-124-635-00	ELECT	220MF	20%	6.3V
C1010	1-124-455-00	ELECT	100MF	20%	16V
C1011	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1012	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1013	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1014	1-124-635-00	ELECT	220MF	20%	6.3V
C1015	1-126-096-11	ELECT	10MF	20%	25V
C1016	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1022	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1023	1-126-096-11	ELECT	10MF	20%	25V
C1025	1-126-177-11	ELECT	100MF	20%	6.3V
C1031	1-126-177-11	ELECT	100MF	20%	6.3V
C1034	1-126-096-11	ELECT	10MF	20%	25V

Ref.No	Part No.	Description			
C1038	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1042	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1043	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1044	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1045	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1061	1-163-227-11	CERAMIC CHIP	10PF	5%	50V
C1078	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C1079	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1080	1-126-096-11	ELECT	10MF	20%	25V
C1081	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1082	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1083	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1084	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C1085	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1086	1-126-096-11	ELECT	10MF	20%	25V
C1087	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C1088	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1089	1-126-096-11	ELECT	10MF	20%	25V
C1090	1-136-173-00	FILM	0.47MF	5%	50V
C1091	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1092	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C1093	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C1094	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1095	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1096	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1097	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1098	1-124-589-11	ELECT	47MF	20%	16V
C1099	1-130-483-00	MYLAR	0.01MF	5%	50V
C1100	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C1101	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C1102	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1103	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1104	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C1105	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C1106	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1107	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1108	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1109	1-124-589-11	ELECT	47MF	20%	16V
C1110	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C1114	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C1115	1-124-635-00	ELECT	220MF	20%	6.3V
C1116	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1117	1-124-234-00	ELECT	22MF	20%	16V
C1118	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1119	1-124-635-00	ELECT	220MF	20%	6.3V
C1120	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1121	1-124-234-00	ELECT	22MF	20%	16V
C1122	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1123	1-124-635-00	ELECT	220MF	20%	6.3V
C1124	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1125	1-124-234-00	ELECT	22MF	20%	16V
C1126	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1127	1-124-635-00	ELECT	220MF	20%	6.3V
C1128	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1129	1-124-234-00	ELECT	22MF	20%	16V
C1130	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1131	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1132	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1134	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1135	1-124-234-00	ELECT	22MF	20%	16V

When indicating parts by reference number, please include the board name.

VA-26

Ref.No	Part No.	Description	Remark
C1136	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1137	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1138	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1139	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1140	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1141	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1142	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1143	1-126-096-11	ELECT 10MF 20% 25V	
C1144	1-126-096-11	ELECT 10MF 20% 25V	
C1145	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1146	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1147	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1148	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1149	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1150	1-124-234-00	ELECT 22MF 20% 16V	
C1151	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1152	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1153	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1154	1-124-589-11	ELECT 47MF 20% 16V	
C1155	1-124-589-11	ELECT 47MF 20% 16V	
C1156	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1157	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1158	1-124-589-11	ELECT 47MF 20% 16V	
C1159	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
		<CONNECTOR>	
CN1	*1-568-935-11	PIN, CONNECTOR (STRAIGHT) 8P	
CN5	*1-568-935-11	PIN, CONNECTOR 8P	
CN101	*1-568-935-11	PIN, CONNECTOR 8P	
CN301	*1-568-953-11	PIN, CONNECTOR 4P	
CN302	*1-568-951-11	PIN, CONNECTOR 2P	
CN501	*1-568-935-11	PIN, CONNECTOR 8P	
CN502	*1-506-468-11	PIN, CONNECTOR 3P	
CN503	*1-568-936-11	PIN, CONNECTOR 9P	
CN504	*1-506-469-11	PIN, CONNECTOR 4P	
CN1001	*1-568-954-11	PIN, CONNECTOR 5P	
CN1002	*1-506-469-11	PIN, CONNECTOR (STRAIGHT) 4P	
CN1003	*1-568-954-11	PIN, CONNECTOR 5P	
CN1004	*1-568-934-11	PIN, CONNECTOR 7P	
CN1005	*1-568-935-11	PIN, CONNECTOR 8P	
CN1006	*1-568-951-11	PIN, CONNECTOR 2P	
CN1007	*1-506-469-11	PIN, CONNECTOR 4P	
		<TRIMMER>	
CV1001	1-141-245-00	TRIMMER, CERAMIC	
CV1002	1-141-260-00	TRIMMER, CERAMIC	
		<DIODE>	
D4	8-719-400-18	DIODE MA152WK	
D5	8-719-104-34	DIODE 1S2836	
D6	8-719-400-18	DIODE MA152WK	
D7	8-719-400-18	DIODE MA152WK	
D8	8-719-800-76	DIODE 1SS226	
D9	8-719-800-76	DIODE 1SS226	
D10	8-719-800-76	DIODE 1SS226	
D11	8-719-104-34	DIODE 1S2836	
D12	8-719-104-34	DIODE 1S2836	
D101	8-719-800-76	DIODE 1SS226	
D201	8-719-104-34	DIODE 1S2836	
D301	8-719-800-76	DIODE 1SS226	
D302	8-719-105-83	DIODE RD5.1M-B3	
D501	8-719-800-76	DIODE 1SS226	
D502	8-719-800-76	DIODE 1SS226	
D1002	8-719-800-09	DIODE 1SV101	
D1003	8-719-105-58	DIODE RD3.9M-B2	
D1004	8-719-105-73	DIODE RD4.7M-B2	
D1005	8-719-104-34	DIODE 1S2836	
		<DELAY LINE>	
DL301	1-415-107-31	DELAY LINE (1H)	
DL302	1-415-306-00	DELAY LINE (340NS)	
DL303	1-415-321-00	DELAY LINE (500N SEC)	
DL1001	1-415-448-21	DELAY LINE	
		<FILTER>	
FL1001	1-235-277-00	FILTER, BAND PASS	
		<IC>	
IC2	8-759-908-17	IC TL082CPS	
IC3	8-759-908-17	IC TL082CPS	
IC4	8-759-300-71	IC HD14053BFP	
IC5	8-759-300-71	IC HD14053BFP	
IC6	8-759-300-71	IC HD14053BFP	
IC7	8-759-300-71	IC HD14053BFP	
IC101	8-759-908-17	IC TL082CPS	
IC102	8-759-206-28	IC MC74HC123AF	
IC201	8-759-300-71	IC HD14053BFP	
IC203	8-759-907-81	IC SN74LS221NS	
IC204	8-759-925-90	IC SN74HC74ANS	
IC206	8-759-009-51	IC MC14538BF	
IC207	8-759-916-25	IC SN74HC32ANS	
IC208	8-759-300-71	IC HD14053BFP	
IC209	8-759-201-47	IC TA7357AP	
IC301	8-759-300-71	IC HD14053BFP	
IC302	8-759-300-71	IC HD14053BFP	
IC303	8-759-908-17	IC TL082CPS	
IC304	8-759-908-17	IC TL082CPS	
IC305	8-759-300-71	IC HD14053BFP	
IC306	8-759-300-71	IC HD14053BFP	
IC307	8-759-300-71	IC HD14053BFP	
IC308	8-759-300-71	IC HD14053BFP	
IC309	8-759-982-21	IC RC78L05A	
IC315	8-752-033-32	IC CXA1228S	
IC501	8-759-927-46	IC SN74HC00ANS	
IC502	8-759-927-46	IC SN74HC00ANS	
IC503	8-759-982-10	IC RC7809FA	
IC504	8-759-982-39	IC RC7909FA	
IC505	8-759-982-38	IC RC7905FA	
IC506	8-759-982-10	IC RC7809FA	
IC507	8-759-982-39	IC RC7909FA	
IC508	8-759-982-38	IC RC7905FA	
IC701	8-759-981-99	IC RC4560M	
IC702	8-759-981-99	IC RC4560M	
IC1001	8-759-239-23	IC TC74HC86AF	
IC1002	8-752-332-67	IC CXD1217M	
IC1003	8-759-927-46	IC SN74HC00ANS	
IC1008	8-752-033-58	IC V7040	
IC1013	8-759-041-18	IC UPD6451AGT-616	
IC1022	8-759-927-46	IC SN74HC00ANS	
IC1023	8-759-926-23	IC SN74HC163ANS	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark
IC1024	8-759-926-23	IC SN74HC163ANS	
IC1025	8-759-926-23	IC SN74HC163ANS	
IC1026	8-749-901-21	IC BX-1461	
IC1027	8-759-907-81	IC SN74LS221NS	
IC1029	8-759-926-52	IC SN74HC257NS	
IC1030	8-759-206-28	IC MC74HC123AF	
IC1031	8-759-907-81	IC SN74LS221NS	
IC1032	8-759-925-76	IC SN74HC08ANS	
IC1033	8-759-925-81	IC SN74HC20ANS	
IC1034	8-759-982-21	IC RC78L05A	
IC1142	8-759-908-17	IC TL082CPS	
		<INDUCTOR>	
L1	1-408-970-21	INDUCTOR 10UH	
L2	1-408-970-21	INDUCTOR 10UH	
L3	1-408-970-21	INDUCTOR 10UH	
L4	1-408-968-21	INDUCTOR 6.8UH	
L5	1-408-969-21	INDUCTOR 8.2UH	
L6	1-408-968-21	INDUCTOR 6.8UH	
L7	1-408-969-21	INDUCTOR 8.2UH	
L8	1-408-968-21	INDUCTOR 6.8UH	
L9	1-408-969-21	INDUCTOR 8.2UH	
L101	1-408-970-21	INDUCTOR 10UH	
L102	1-408-970-21	INDUCTOR 10UH	
L203	1-408-973-21	INDUCTOR 18UH	
L204	1-408-970-21	INDUCTOR 10UH	
L205	1-408-970-21	INDUCTOR 10UH	
L301	1-408-970-21	INDUCTOR 10UH	
L302	1-408-970-21	INDUCTOR 10UH	
L303	1-408-973-21	INDUCTOR 18UH	
L304	1-408-973-21	INDUCTOR 18UH	
L305	1-408-972-21	INDUCTOR 15UH	
L306	1-408-972-21	INDUCTOR 15UH	
L308	1-408-973-21	INDUCTOR 18UH	
L310	1-408-970-21	INDUCTOR 10UH	
L315	1-408-970-21	INDUCTOR 10UH	
L316	1-408-970-21	INDUCTOR 10UH	
L317	1-408-970-21	INDUCTOR 10UH	
L318	1-408-970-21	INDUCTOR 10UH	
L319	1-408-976-21	INDUCTOR 33UH	
L320	1-408-978-21	INDUCTOR 47UH	
L501	1-412-525-21	INDUCTOR 10UH	
L502	1-412-525-21	INDUCTOR 10UH	
L503	1-412-525-21	INDUCTOR 10UH	
L504	1-412-525-21	INDUCTOR 10UH	
L601	1-408-970-21	INDUCTOR 10UH	
L602	1-408-970-21	INDUCTOR 10UH	
L610	1-408-969-21	INDUCTOR 8.2UH	
L1004	1-407-169-XX	INDUCTOR 100UH	
L1005	1-408-970-21	INDUCTOR 10UH	
L1006	1-407-169-XX	INDUCTOR 100UH	
L1007	1-408-958-21	INDUCTOR 1UH	
L1009	1-408-976-21	INDUCTOR 33UH	
L1010	1-408-970-21	INDUCTOR 10UH	
L1011	1-408-977-21	INDUCTOR 39UH	
L1012	1-408-970-21	INDUCTOR 10UH	
L1013	1-408-970-21	INDUCTOR 10UH	
L1014	1-408-970-21	INDUCTOR 10UH	
L1015	1-407-169-XX	INDUCTOR 100UH	
L1016	1-408-970-21	INDUCTOR 10UH	
L1017	1-408-970-21	INDUCTOR 10UH	

Ref.No	Part No.	Description	Remark
LV301	1-407-571-00	COIL, VARIABLE 22UH	
LV1004	1-407-563-00	COIL, VARIABLE 1UH	
		<TRANSISTOR>	
Q1	8-729-100-66	TRANSISTOR 2SC1623	
Q2	8-729-100-66	TRANSISTOR 2SC1623	
Q3	8-729-100-66	TRANSISTOR 2SC1623	
Q4	8-729-216-22	TRANSISTOR 2SA1162	
Q5	8-729-202-38	TRANSISTOR 2SC3326N	
Q6	8-729-100-66	TRANSISTOR 2SC1623	
Q7	8-729-100-66	TRANSISTOR 2SC1623	
Q8	8-729-100-66	TRANSISTOR 2SC1623	
Q9	8-729-122-63	TRANSISTOR 2SA1226	
Q10	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q11	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q12	8-729-100-66	TRANSISTOR 2SC1623	
Q13	8-729-100-66	TRANSISTOR 2SC1623	
Q14	8-729-100-66	TRANSISTOR 2SC1623	
Q15	8-729-216-22	TRANSISTOR 2SA1162	
Q16	8-729-202-38	TRANSISTOR 2SC3326N	
Q17	8-729-100-66	TRANSISTOR 2SC1623	
Q18	8-729-100-66	TRANSISTOR 2SC1623	
Q19	8-729-100-66	TRANSISTOR 2SC1623	
Q20	8-729-122-63	TRANSISTOR 2SA1226	
Q21	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q22	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q23	8-729-100-66	TRANSISTOR 2SC1623	
Q24	8-729-100-66	TRANSISTOR 2SC1623	
Q25	8-729-100-66	TRANSISTOR 2SC1623	
Q26	8-729-216-22	TRANSISTOR 2SA1162	
Q27	8-729-100-66	TRANSISTOR 2SC1623	
Q28	8-729-100-66	TRANSISTOR 2SC1623	
Q29	8-729-100-66	TRANSISTOR 2SC1623	
Q30	8-729-122-63	TRANSISTOR 2SA1226	
Q31	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q32	8-729-200-87	TRANSISTOR 2SC2714-Y	
Q33	8-729-216-22	TRANSISTOR 2SA1162	
Q35	8-729-216-22	TRANSISTOR 2SA1162	
Q36	8-729-216-22	TRANSISTOR 2SA1162	
Q37	8-729-216-22	TRANSISTOR 2SA1162	
Q38	8-729-100-66	TRANSISTOR 2SC1623	
Q39	8-729-100-66	TRANSISTOR 2SC1623	
Q40	8-729-202-38	TRANSISTOR 2SC3326N	
Q101	8-729-100-66	TRANSISTOR 2SC1623	
Q102	8-729-100-66	TRANSISTOR 2SC1623	
Q103	8-729-100-66	TRANSISTOR 2SC1623	
Q104	8-729-100-66	TRANSISTOR 2SC1623	
Q201	8-729-100-66	TRANSISTOR 2SC1623	
Q202	8-729-100-66	TRANSISTOR 2SC1623	
Q203	8-729-216-22	TRANSISTOR 2SA1162	
Q204	8-729-216-22	TRANSISTOR 2SA1162	
Q303	8-729-100-66	TRANSISTOR 2SC1623	
Q304	8-729-100-66	TRANSISTOR 2SC1623	
Q305	8-729-216-22	TRANSISTOR 2SA1162	
Q306	8-729-100-66	TRANSISTOR 2SC1623	
Q307	8-729-100-66	TRANSISTOR 2SC1623	
Q308	8-729-100-66	TRANSISTOR 2SC1623	
Q309	8-729-100-66	TRANSISTOR 2SC1623	
Q310	8-729-100-66	TRANSISTOR 2SC1623	

When indicating parts by reference number, please include the board name.

VA-26

Ref.No	Part No.	Description	Remark
Q311	8-729-216-22	TRANSISTOR 2SA1162	
Q312	8-729-100-66	TRANSISTOR 2SC1623	
Q313	8-729-100-66	TRANSISTOR 2SC1623	
Q314	8-729-100-66	TRANSISTOR 2SC1623	
Q315	8-729-100-66	TRANSISTOR 2SC1623	
Q316	8-729-100-66	TRANSISTOR 2SC1623	
Q318	8-729-202-38	TRANSISTOR 2SC3326N	
Q319	8-729-202-38	TRANSISTOR 2SC3326N	
Q320	8-729-202-38	TRANSISTOR 2SC3326N	
Q321	8-729-216-22	TRANSISTOR 2SA1162	
Q322	8-729-216-22	TRANSISTOR 2SA1162	
Q323	8-729-100-66	TRANSISTOR 2SC1623	
Q324	8-729-100-66	TRANSISTOR 2SC1623	
Q325	8-729-216-22	TRANSISTOR 2SA1162	
Q326	8-729-100-66	TRANSISTOR 2SC1623	
Q327	8-729-100-66	TRANSISTOR 2SC1623	
Q328	8-729-100-66	TRANSISTOR 2SC1623	
Q329	8-729-100-66	TRANSISTOR 2SC1623	
Q330	8-729-100-66	TRANSISTOR 2SC1623	
Q331	8-729-100-66	TRANSISTOR 2SC1623	
Q332	8-729-216-22	TRANSISTOR 2SA1162	
Q333	8-729-100-66	TRANSISTOR 2SC1623	
Q334	8-729-100-66	TRANSISTOR 2SC1623	
Q335	8-729-100-66	TRANSISTOR 2SC1623	
Q338	8-729-100-66	TRANSISTOR 2SC1623	
Q339	8-729-100-66	TRANSISTOR 2SC1623	
Q340	8-729-100-66	TRANSISTOR 2SC1623	
Q345	8-729-100-66	TRANSISTOR 2SC1623	
Q346	8-729-100-66	TRANSISTOR 2SC1623	
Q347	8-729-100-66	TRANSISTOR 2SC1623	
Q348	8-729-100-66	TRANSISTOR 2SC1623	
Q349	8-729-100-66	TRANSISTOR 2SC1623	
Q350	8-729-100-66	TRANSISTOR 2SC1623	
Q351	8-729-100-66	TRANSISTOR 2SC1623	
Q353	8-729-100-66	TRANSISTOR 2SC1623	
Q354	8-729-100-66	TRANSISTOR 2SC1623	
Q355	8-729-216-22	TRANSISTOR 2SA1162	
Q356	8-729-202-38	TRANSISTOR 2SC3326N	
Q357	8-729-216-22	TRANSISTOR 2SA1162	
Q358	8-729-202-38	TRANSISTOR 2SC3326N	
Q359	8-729-216-22	TRANSISTOR 2SA1162	
Q360	8-729-202-38	TRANSISTOR 2SC3326N	
Q363	8-729-100-66	TRANSISTOR 2SC1623	
Q364	8-729-100-66	TRANSISTOR 2SC1623	
Q365	8-729-100-66	TRANSISTOR 2SC1623	
Q366	8-729-100-66	TRANSISTOR 2SC1623	
Q367	8-729-100-66	TRANSISTOR 2SC1623	
Q601	8-729-100-66	TRANSISTOR 2SC1623	
Q602	8-729-100-66	TRANSISTOR 2SC1623	
Q603	8-729-100-66	TRANSISTOR 2SC1623	
Q1001	8-769-401-89	TRANSISTOR TX-429M	
Q1002	8-729-100-66	TRANSISTOR 2SC1623	
Q1003	8-729-100-66	TRANSISTOR 2SC1623	
Q1004	8-769-401-89	TRANSISTOR TX-429M	
Q1005	8-729-100-66	TRANSISTOR 2SC1623	
Q1006	8-729-100-66	TRANSISTOR 2SC1623	
Q1007	8-769-401-89	TRANSISTOR TX-429M	
Q1008	8-729-100-66	TRANSISTOR 2SC1623	
Q1009	8-729-100-66	TRANSISTOR 2SC1623	
Q1010	8-729-100-66	TRANSISTOR 2SC1623	
Q1015	8-729-100-66	TRANSISTOR 2SC1623	
Q1016	8-729-100-66	TRANSISTOR 2SC1623	
Q1017	8-729-100-66	TRANSISTOR 2SC1623	
Q1018	8-729-100-66	TRANSISTOR 2SC1623	
Q1019	8-729-100-66	TRANSISTOR 2SC1623	
Q1028	8-729-100-66	TRANSISTOR 2SC1623	
Q1029	8-729-100-66	TRANSISTOR 2SC1623	
Q1034	8-729-100-66	TRANSISTOR 2SC1623	
Q1035	8-729-100-66	TRANSISTOR 2SC1623	
Q1036	8-729-100-66	TRANSISTOR 2SC1623	
Q1037	8-729-100-66	TRANSISTOR 2SC1623	
Q1038	8-729-100-66	TRANSISTOR 2SC1623	
Q1039	8-729-100-66	TRANSISTOR 2SC1623	
Q1040	8-729-100-66	TRANSISTOR 2SC1623	
Q1041	8-729-100-66	TRANSISTOR 2SC1623	
Q1042	8-729-175-72	TRANSISTOR 2SC2757-T33	
Q1043	8-729-175-72	TRANSISTOR 2SC2757-T33	
Q1044	8-729-100-66	TRANSISTOR 2SC1623	
Q1045	8-729-100-66	TRANSISTOR 2SC1623	

<RESISTOR>

R1	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R2	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R3	1-216-037-00	METAL GLAZE	330	5%	1/10W
R4	1-216-043-00	METAL GLAZE	560	5%	1/10W
R5	1-216-039-00	METAL GLAZE	390	5%	1/10W
R6	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R7	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R8	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R9	1-216-037-00	METAL GLAZE	330	5%	1/10W
R10	1-216-037-00	METAL GLAZE	330	5%	1/10W
R11	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R12	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R13	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R14	1-216-025-00	METAL GLAZE	100	5%	1/10W
R15	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R16	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R17	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R18	1-216-037-00	METAL GLAZE	330	5%	1/10W
R19	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R20	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R21	1-216-045-00	METAL GLAZE	680	5%	1/10W
R22	1-216-001-00	METAL GLAZE	10	5%	1/10W
R23	1-216-017-00	METAL GLAZE	47	5%	1/10W
R24	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R25	1-216-308-00	METAL GLAZE	4.7	5%	1/10W
R26	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R27	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R28	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R29	1-216-037-00	METAL GLAZE	330	5%	1/10W
R30	1-216-043-00	METAL GLAZE	560	5%	1/10W
R31	1-216-039-00	METAL GLAZE	390	5%	1/10W
R32	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R33	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R34	1-216-037-00	METAL GLAZE	330	5%	1/10W
R35	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R36	1-216-037-00	METAL GLAZE	330	5%	1/10W
R37	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R38	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R39	1-216-049-00	METAL GLAZE	1K	5%	1/10W

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description				Remark
R40	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R41	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R42	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R43	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R44	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R45	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R46	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R47	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R48	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R49	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R50	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R51	1-216-308-00	METAL GLAZE	4.7	5%	1/10W	
R52	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R53	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R54	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R55	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R56	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R57	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R58	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R59	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R60	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R61	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R62	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R63	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R64	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R65	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R66	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R67	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R68	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R69	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R70	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R71	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R72	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R73	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R74	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R75	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R76	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R77	1-216-308-00	METAL GLAZE	4.7	5%	1/10W	
R78	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R79	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R81	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R82	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R83	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R85	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R86	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R87	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R88	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R89	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R90	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R91	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R92	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R93	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R94	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R95	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R96	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R100	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R101	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R102	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R103	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R104	1-216-017-00	METAL GLAZE	47	5%	1/10W	

Ref.No	Part No.	Description				Remark
R105	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R106	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R107	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R108	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R109	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R110	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R111	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R112	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R113	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R114	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R115	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R116	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R117	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R118	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R119	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R120	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R121	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R129	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R130	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R131	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R132	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R210	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R211	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R212	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R213	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R214	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R215	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R216	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R217	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R218	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R219	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R220	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R221	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R222	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R223	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R224	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R225	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R226	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R227	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R228	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R229	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R230	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R232	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R233	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R234	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R235	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R236	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R237	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R238	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R239	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R301	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R302	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R303	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R304	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R305	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R306	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R307	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R308	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R309	1-216-043-00	METAL GLAZE	560	5%	1/10W	

When indicating parts by reference number, please include the board name.

VA-26

Ref.No	Part No.	Description				Remark
R310	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R311	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R312	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R313	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R314	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R315	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R316	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R317	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R318	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R319	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R320	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R321	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R322	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R323	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R324	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R325	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R326	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R327	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R328	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R329	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R330	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R331	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R332	1-216-658-11	METAL CHIP	2K	0.50%	1/10W	
R333	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R335	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R336	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R337	1-216-642-11	METAL CHIP	430	0.50%	1/10W	
R338	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R339	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R340	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R341	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R345	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R346	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R347	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R348	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R349	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R350	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R351	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R352	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R353	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R354	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R355	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R356	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R358	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R359	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R360	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R363	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R364	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R387	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R388	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R389	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R390	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R391	1-216-630-11	METAL CHIP	130	0.50%	1/10W	
R392	1-216-649-11	METAL CHIP	820	0.50%	1/10W	
R393	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R394	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R395	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R396	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R397	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R398	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R399	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R400	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R401	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R402	1-216-620-11	METAL CHIP	51	0.50%	1/10W	
R403	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R404	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	
R405	1-216-628-11	METAL CHIP	110	0.50%	1/10W	
R406	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R407	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R408	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R409	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R410	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R411	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R412	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R413	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R414	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R415	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R416	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R417	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R418	1-216-623-11	METAL CHIP	68	0.50%	1/10W	
R419	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R420	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R421	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R422	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R423	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R424	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R439	1-216-111-00	METAL GLAZE	390K	5%	1/10W	
R440	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R442	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R443	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R446	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R447	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R448	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R449	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R450	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R451	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R452	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R453	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R454	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R455	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R456	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R457	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R458	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R459	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R460	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R461	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R462	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R465	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R466	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R467	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R468	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R469	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R471	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R474	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R475	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R476	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R477	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R480	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R481	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R482	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description				Remark
R483	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R484	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R485	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R486	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R487	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R488	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R489	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R490	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R491	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R492	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R493	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R494	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R495	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R496	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R497	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R498	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R499	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R505	1-215-932-	METAL OXIDE	22	5%	5W F	
R507	1-216-493-	METAL OXIDE	12	5%	5W F	
R508	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R509	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R510	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R511	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R601	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R602	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R603	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R604	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R605	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R606	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R607	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R646	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R647	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R648	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R649	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R717	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R718	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R719	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R720	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R721	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R722	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R723	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R724	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R725	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R726	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R727	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R728	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R729	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R730	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R731	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R732	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R733	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R734	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R735	1-216-694-11	METAL CHIP	62K	0.50%	1/10W	
R736	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R737	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R738	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R739	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R740	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R741	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R742	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R743	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R744	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R745	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R746	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R747	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R748	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R749	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R750	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R751	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R752	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R753	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R754	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R756	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R801	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R802	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R803	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R804	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R805	1-216-662-11	METAL CHIP	3K	0.50%	1/10W	
R806	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R807	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R808	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R809	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R810	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R811	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R812	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R813	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R814	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R815	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R816	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W	
R817	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R818	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W	
R819	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R821	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R822	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R823	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R824	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R825	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R826	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R827	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R828	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R829	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R830	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R831	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R832	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R833	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R834	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R835	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R841	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R842	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R843	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R844	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R845	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R846	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R847	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R848	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R849	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R850	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R851	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R852	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R853	1-216-025-00	METAL GLAZE	100	5%	1/10W	

When indicating parts by reference number, please include the board name.

VA-26

Ref.No	Part No.	Description				Remark
R854	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R855	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R856	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R857	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R858	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R859	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1001	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1002	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1003	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1004	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1005	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1006	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R1007	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1008	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1009	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1010	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1011	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1012	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1013	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1014	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1015	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R1016	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1017	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1018	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1019	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1020	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1021	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1022	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1023	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1024	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R1025	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1026	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1027	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1028	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R1029	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1030	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1031	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1032	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1035	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1040	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1046	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1047	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1051	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1054	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1058	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1072	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1073	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1074	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1075	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1076	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1077	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1084	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1085	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1113	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1116	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1117	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1118	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1119	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1120	1-216-025-00	METAL GLAZE	100	5%	1/10W	

Ref.No	Part No.	Description				Remark
R1121	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1122	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1123	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1124	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R1125	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1126	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1127	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1128	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1129	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1130	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1132	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1133	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1134	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1135	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R1136	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1137	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1138	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1139	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1140	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1141	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1142	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1143	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1144	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1145	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1146	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1147	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1148	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1149	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1150	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1151	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1154	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1155	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1156	1-216-636-11	METAL CHIP	240	0.50%	1/10W	
R1157	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1158	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1159	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1160	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1164	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1165	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1166	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1167	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1168	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1169	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1170	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1171	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1172	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1173	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1174	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1175	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1176	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1177	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1178	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1179	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1180	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1181	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1182	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1183	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1184	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1185	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1186	1-216-025-00	METAL GLAZE	100	5%	1/10W	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark
R1187	1-216-065-00	METAL GLAZE	4.7K	5% 1/10W	
R1188	1-216-648-11	METAL CHIP	750	0.50% 1/10W	
R1189	1-216-073-00	METAL GLAZE	10K	5% 1/10W	
R1190	1-216-073-00	METAL GLAZE	10K	5% 1/10W	
R1192	1-216-097-00	METAL GLAZE	100K	5% 1/10W	
R1193	1-216-097-00	METAL GLAZE	100K	5% 1/10W	
R1194	1-216-069-00	METAL GLAZE	6.8K	5% 1/10W	
R1195	1-216-073-00	METAL GLAZE	10K	5% 1/10W	
R1196	1-216-063-00	METAL GLAZE	3.9K	5% 1/10W	
R1197	1-216-049-00	METAL GLAZE	1K	5% 1/10W	
R1198	1-216-295-00	METAL GLAZE	0	5% 1/10W	
R1199	1-216-295-00	METAL GLAZE	0	5% 1/10W	
R1200	1-216-085-00	METAL GLAZE	33K	5% 1/10W	
R1201	1-216-085-00	METAL GLAZE	33K	5% 1/10W	
R1202	1-216-085-00	METAL GLAZE	33K	5% 1/10W	
R1203	1-216-015-00	METAL GLAZE	39	5% 1/10W	
R1204	1-216-015-00	METAL GLAZE	39	5% 1/10W	
R2041	1-216-049-00	METAL GLAZE	1K	5% 1/10W	
		<VARIABLE RESISTOR>			
RV1	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K			
RV2	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV3	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K			
RV4	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV6	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV7	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV8	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV9	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV10	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K			
RV14	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV15	1-237-516-21	RES, ADJ, METAL FILM 2K			
RV16	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV201	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K			
RV203	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K			
RV204	1-228-995-00	RES, ADJ, METAL GLAZE 22K			
RV302	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV303	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV304	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV305	1-237-514-21	RES, ADJ, METAL FILM 500			
RV307	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV308	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV309	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV311	1-228-994-00	RES, ADJ, METAL GLAZE 10K			
RV312	1-237-514-21	RES, ADJ, METAL FILM 500			
RV313	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV314	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV315	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV316	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV317	1-228-995-00	RES, ADJ, METAL GLAZE 22K			
RV318	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV601	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV1001	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV1002	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV1003	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV1004	1-230-504-11	RES, ADJ, METAL GLAZE 220			
RV1005	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV1006	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV1007	1-228-991-00	RES, ADJ, METAL GLAZE 2.2K			
RV1008	1-228-990-00	RES, ADJ, METAL GLAZE 1K			
RV1009	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV1010	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV1011	1-228-989-00	RES, ADJ, METAL GLAZE 470			
RV1012	1-228-989-00	RES, ADJ, METAL GLAZE 470			
		<SWITCH>			
S301	1-570-856-11	SWITCH, SLIDE			
		<TRANSFORMER>			
TI301	1-425-786-00	TRANSFORMER, BANDPASS (BPT)			
		<CRYSTAL>			
X301	1-567-859-11	VIBRATOR, CRYSTAL			
X1001	1-567-866-11	VIBRATOR, CRYSTAL			
**********					
	*A-8271-104-A	FMY-8 BOARD, COMPLETE (5200MD)			
	*A-8271-105-A	FMY-8 BOARD, COMPLETE (5250MD)			
	**********				
		<CAPACITOR>			
C1	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C2	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C3	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C4	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C5	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C6	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C7	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C8	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C9	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C10	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C11	1-163-227-11	CERAMIC CHIP 10PF		5%	50V
C12	1-163-241-11	CERAMIC CHIP 39PF		5%	50V
C13	1-163-109-00	CERAMIC CHIP 47PF		5%	50V
C14	1-163-109-00	CERAMIC CHIP 47PF		5%	50V
C15	1-163-109-00	CERAMIC CHIP 47PF		5%	50V
C16	1-163-105-00	CERAMIC CHIP 33PF		5%	50V
C17	1-163-105-00	CERAMIC CHIP 33PF		5%	50V
C18	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C19	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C20	1-163-235-11	CERAMIC CHIP 22PF		5%	50V
C22	1-124-455-00	ELECT	100MF	20%	16V
C23	1-124-455-00	ELECT	100MF	20%	16V
C24	1-163-263-11	CERAMIC CHIP 330PF		5%	50V
C25	1-163-009-11	CERAMIC CHIP 0.001MF		10%	50V
C26	1-124-455-00	ELECT	100MF	20%	16V
C27	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C28	1-124-455-00	ELECT	100MF	20%	16V
C29	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C30	1-124-455-00	ELECT	100MF	20%	16V
C31	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C32	1-124-455-00	ELECT	100MF	20%	16V
C33	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C34	1-124-455-00	ELECT	100MF	20%	16V
C35	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C36	1-124-455-00	ELECT	100MF	20%	16V
C37	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C38	1-163-038-00	CERAMIC CHIP 0.1MF			25V
C39	1-124-455-00	ELECT	100MF	20%	16V

When indicating parts by reference number, please include the board name.

FMY-8

Ref.No	Part No.	Description			Remark
C40	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C41	1-124-455-00	ELECT	100MF	20%	16V
C42	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C46	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C47	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C48	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C49	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C50	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C51	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C52	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C53	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C54	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C55	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C56	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C57	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C58	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C59	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C60	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C61	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C62	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C63	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C64	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C65	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C66	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C67	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C68	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C69	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C70	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C71	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C72	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C73	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C74	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C75	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C76	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C77	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C78	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C79	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C80	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C81	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C82	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C83	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C84	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C85	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C86	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C87	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C88	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C89	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C90	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C91	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C92	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C93	1-124-589-11	ELECT	47MF	20%	16V
C94	1-124-589-11	ELECT	47MF	20%	16V
C95	1-124-589-11	ELECT	47MF	20%	16V
C96	1-124-589-11	ELECT	47MF	20%	16V
C97	1-124-589-11	ELECT	47MF	20%	16V
C98	1-124-589-11	ELECT	47MF	20%	16V
C99	1-124-589-11	ELECT	47MF	20%	16V
C100	1-124-589-11	ELECT	47MF	20%	16V
C101	1-124-589-11	ELECT	47MF	20%	16V
C102	1-124-589-11	ELECT	47MF	20%	16V
C103	1-124-589-11	ELECT	47MF	20%	16V
C104	1-124-589-11	ELECT	47MF	20%	16V
C105	1-124-589-11	ELECT	47MF	20%	16V
C106	1-124-589-11	ELECT	47MF	20%	16V
C107	1-124-589-11	ELECT	47MF	20%	16V
C108	1-124-589-11	ELECT	47MF	20%	16V
C109	1-124-589-11	ELECT	47MF	20%	16V
C110	1-124-589-11	ELECT	47MF	20%	16V
C111	1-124-589-11	ELECT	47MF	20%	16V
C112	1-124-589-11	ELECT	47MF	20%	16V
C113	1-124-589-11	ELECT	47MF	20%	16V
C114	1-124-589-11	ELECT	47MF	20%	16V
C115	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C116	1-124-589-11	ELECT	47MF	20%	16V
C117	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C118	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C119	1-163-038-00	CERAMIC CHIP	0.1MF		25V
		<CONNECTOR>			
CN1	*1-568-935-11	PIN, CONNECTOR 8P			
CN2	*1-573-912-11	PIN, CONNECTOR 14P			
CN3	*1-568-939-11	PIN, CONNECTOR 12P			
		<CERAMIC TRIMMER>			
CT1	1-141-245-00	TRIMMER, CERAMIC			
		<FILTER>			
FL1	1-236-163-11	ENCAPSULATED COMPONENT			
FL2	1-236-163-11	ENCAPSULATED COMPONENT			
FL3	1-236-163-11	ENCAPSULATED COMPONENT			
FL6	1-236-163-11	ENCAPSULATED COMPONENT			
FL7	1-236-163-11	ENCAPSULATED COMPONENT			
FL8	1-236-163-11	ENCAPSULATED COMPONENT			
FL9	1-236-163-11	ENCAPSULATED COMPONENT			
FL10	1-236-163-11	ENCAPSULATED COMPONENT			
FL11	1-236-163-11	ENCAPSULATED COMPONENT			
FL12	1-236-163-11	ENCAPSULATED COMPONENT			
		<IC>			
IC1	8-752-334-55	IC CXD1175AM			
IC2	8-752-334-55	IC CXD1175AM			
IC3	8-752-334-55	IC CXD1175AM			
IC4	8-759-114-09	IC UPD65006GF-250-3B8			
IC5	8-759-140-94	IC CXD1332P			
IC6	8-759-060-72	IC DS1000M-75			
IC7	8-759-154-50	IC CXD8301Q			
IC8	8-759-916-25	IC SN74HC32ANS			
		- UP-5200MD ONLY -			
IC9	8-759-323-59	IC HM514256AZP-8			
IC10	8-759-323-59	IC HM514256AZP-8			
IC11	8-759-323-59	IC HM514256AZP-8			
IC12	8-759-323-59	IC HM514256AZP-8			
IC13	8-759-323-59	IC HM514256AZP-8			
IC14	8-759-323-59	IC HM514256AZP-8			
IC15	8-759-323-59	IC HM514256AZP-8			
IC16	8-759-323-59	IC HM514256AZP-8			
IC17	8-759-323-59	IC HM514256AZP-8			
IC18	8-759-323-59	IC HM514256AZP-8			
IC19	8-759-323-59	IC HM514256AZP-8			

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark
IC20	8-759-323-59	IC HM514256AZP-8	
		- UP-5250MD ONLY -	
IC9	8-759-043-60	IC HM51H240AZ7	
IC10	8-759-043-60	IC HM51H240AZ7	
IC11	8-759-043-60	IC HM51H240AZ7	
IC12	8-759-043-60	IC HM51H240AZ7	
IC13	8-759-043-60	IC HM51H240AZ7	
IC14	8-759-043-60	IC HM51H240AZ7	
IC15	8-759-043-60	IC HM51H240AZ7	
IC16	8-759-043-60	IC HM51H240AZ7	
IC17	8-759-043-60	IC HM51H240AZ7	
IC18	8-759-043-60	IC HM51H240AZ7	
IC19	8-759-043-60	IC HM51H240AZ7	
IC20	8-759-043-60	IC HM51H240AZ7	
IC21	8-759-033-44	IC MC74F245M	
IC22	8-759-033-44	IC MC74F245M	
IC23	8-759-033-44	IC MC74F245M	
IC24	8-759-033-48	IC MC74F257M	
IC25	8-759-239-23	IC TC74HC86AF	
IC26	8-759-916-25	IC SN74HC32ANS	
IC27	8-759-925-74	IC SN74HC04ANS	
IC28	8-759-059-92	IC HD6435328RB13F	
IC29	8-759-114-07	IC UPD65013GF-407-3BA	
IC30	8-759-053-96	IC CXD8328Q	
IC32	8-759-925-76	IC SN74HC08ANS	
IC33	8-759-514-88	IC IDT6116SA35TP	
IC34	8-759-514-88	IC IDT6116SA35TP	
IC35	8-759-514-88	IC IDT6116SA35TP	
IC36	8-759-154-50	IC CXD8301Q	
IC37	8-759-057-50	IC HN62302BF-Z11	
IC38	8-759-057-51	IC HN62302BF-Z12	
IC39	8-759-926-82	IC SN74HC574ANS	
IC40	8-759-926-77	IC SN74HC541ANS	
IC41	8-759-926-77	IC SN74HC541ANS	
IC42	8-759-926-77	IC SN74HC541ANS	
IC43	8-759-112-06	IC UPC78N05H	
IC44	8-759-154-50	IC CXD8301Q	
IC45	8-759-154-50	IC CXD8301Q	
IC46	8-752-032-93	IC CXA1260Q-Z	
IC47	8-759-033-24	IC MC74F139M	
IC48	8-759-057-52	IC HN62302BF-Z13	
IC49	8-759-060-71	IC CXD8327Q	
		<INDUCTOR>	
L1	1-407-169-XX	INDUCTOR 100UH	
L3	1-412-525-21	INDUCTOR 10UH	
L4	1-412-525-21	INDUCTOR 10UH	
L5	1-412-525-21	INDUCTOR 10UH	
L6	1-407-169-XX	INDUCTOR 100UH	
L7	1-407-169-XX	INDUCTOR 100UH	
L8	1-407-169-XX	INDUCTOR 100UH	
		<TRANSISTOR>	
Q1	8-729-967-32	TRANSISTOR 2SC2673	
Q2	8-729-967-32	TRANSISTOR 2SC2673	
Q3	8-729-967-32	TRANSISTOR 2SC2673	

Ref.No	Part No.	Description			Remark
		<RESISTOR>			
R1	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R4	1-216-119-00	METAL GLAZE	820K	5%	1/10W
R5	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R7	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R8	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R10	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R11	1-216-033-00	METAL GLAZE	220	5%	1/10W
R12	1-216-033-00	METAL GLAZE	220	5%	1/10W
R13	1-216-033-00	METAL GLAZE	220	5%	1/10W
R14	1-216-033-00	METAL GLAZE	220	5%	1/10W
R15	1-216-033-00	METAL GLAZE	220	5%	1/10W
R16	1-216-033-00	METAL GLAZE	220	5%	1/10W
R17	1-216-033-00	METAL GLAZE	220	5%	1/10W
R18	1-216-033-00	METAL GLAZE	220	5%	1/10W
R19	1-216-033-00	METAL GLAZE	220	5%	1/10W
R20	1-216-033-00	METAL GLAZE	220	5%	1/10W
R21	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R22	1-216-037-00	METAL GLAZE	330	5%	1/10W
R23	1-216-037-00	METAL GLAZE	330	5%	1/10W
R24	1-216-037-00	METAL GLAZE	330	5%	1/10W
R25	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R26	1-216-001-00	METAL GLAZE	10	5%	1/10W
R27	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R28	1-216-001-00	METAL GLAZE	10	5%	1/10W
R29	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R30	1-216-001-00	METAL GLAZE	10	5%	1/10W
R31	1-216-041-00	METAL GLAZE	470	5%	1/10W
R32	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R33	1-216-001-00	METAL GLAZE	10	5%	1/10W
R34	1-216-001-00	METAL GLAZE	10	5%	1/10W
R35	1-216-001-00	METAL GLAZE	10	5%	1/10W
R36	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R37	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R38	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R39	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R40	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R43	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R44	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R45	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R46	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R47	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R48	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R49	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R50	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R51	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R52	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R53	1-216-037-00	METAL GLAZE	330	5%	1/10W
R54	1-216-045-00	METAL GLAZE	680	5%	1/10W
R55	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R56	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R57	1-247-734-81	CARBON	39	5%	1/2W F
		<RESISTOR BLOCK>			
RB1	1-231-405-00	RESISTOR BLOCK 1K			
RB2	1-231-405-00	RESISTOR BLOCK 1K			

When indicating parts by reference number, please include the board name.

FMY-8 SY-9

Ref.No	Part No.	Description			Remark
RB3	1-231-405-00	RESISTOR BLOCK 1K			
RB4	1-231-385-00	RESISTOR BLOCK 4.7K			
RB5	1-231-385-00	RESISTOR BLOCK 4.7K			
RB6	1-231-385-00	RESISTOR BLOCK 4.7K			
		<CRYSTAL>			
X1	1-567-878-11	VIBRATOR, CRYSTAL 14.318MHz			
X2	1-577-110-11	VIBRATOR, CRYSTAL 20MHz			
**********					
	*A-8271-102-A	SY-9 BOARD, COMPLETE			
	**********				
*1-526-659-00		SOCKET, IC (DP) 28P			
1-526-660-21		SOCKET, IC (DP) 32P			
*1-535-199-11		TERMINAL, SOLDERLESS			
		<CAPACITOR>			
C1	1-124-480-11	ELECT	470MF	20%	25V
C2	1-124-480-11	ELECT	470MF	20%	25V
C3	1-124-477-11	ELECT	47MF	20%	16V
C4	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C5	1-124-907-11	ELECT	10MF	20%	50V
C6	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C7	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C8	1-124-126-00	ELECT	47MF	20%	10V
C9	1-164-161-11	CERAMIC CHIP	0.0022MF		50V
C10	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C11	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C12	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C13	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C14	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C15	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C16	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C17	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C18	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C19	1-124-902-00	ELECT	0.47MF	20%	50V
C20	1-124-902-00	ELECT	0.47MF	20%	50V
C21	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C22	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C23	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C24	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C25	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C26	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C27	1-124-126-00	ELECT	47MF	20%	10V
C28	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C29	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C30	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C31	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C32	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C33	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C34	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C35	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C36	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C37	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C38	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C39	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C40	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V

Ref.No	Part No.	Description			Remark
C41	1-124-477-11	ELECT	47MF	20%	16V
C42	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C43	1-124-907-11	ELECT	10MF	20%	50V
C44	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C45	1-124-907-11	ELECT	10MF	20%	50V
C46	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C47	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C48	1-124-443-00	ELECT	100MF	20%	6.3V
C49	1-124-443-00	ELECT	100MF	20%	6.3V
C50	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C51	1-124-126-00	ELECT	47MF	20%	10V
C52	1-124-126-00	ELECT	47MF	20%	10V
C53	1-124-126-00	ELECT	47MF	20%	10V
C54	1-124-126-00	ELECT	47MF	20%	10V
C61	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C62	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C63	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C64	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C65	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C66	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C67	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C68	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C69	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C70	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C71	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C72	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C73	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C74	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C75	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C76	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C77	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C78	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C79	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C80	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C81	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C82	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C83	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C84	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C85	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C101	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C105	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C106	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C107	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C108	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		<CONNECTOR>			
CN1	*1-568-935-11	PIN, CONNECTOR 8P			
CN2	*1-568-937-11	PIN, CONNECTOR 10P			
CN3	*1-568-935-11	PIN, CONNECTOR 8P			
CN4	*1-568-935-11	PIN, CONNECTOR 8P			
CN5	*1-568-939-41	PIN, CONNECTOR 12P			
CN6	*1-568-955-91	PIN, CONNECTOR (STRAIGHT) 6P			
CN7	*1-568-954-11	PIN, CONNECTOR 5P			
CN8	*1-568-937-11	PIN, CONNECTOR 10P			
CN9	*1-560-894-00	PIN, CONNECTOR 6P			
CN10	*1-568-951-11	PIN, CONNECTOR 2P			
CN11	*1-568-951-11	PIN, CONNECTOR 2P			
CN12	*1-560-891-00	PIN, CONNECTOR 3P			
CN13	*1-506-468-11	PIN, CONNECTOR 3P			
CN14	*1-568-951-11	PIN, CONNECTOR 2P			

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark
CN15	*1-568-955-11	PIN, CONNECTOR 6P	
CN16	*1-568-951-11	PIN, CONNECTOR 2P	
CN17	*1-568-951-11	PIN, CONNECTOR 2P	
CN18	*1-568-951-11	PIN, CONNECTOR 2P	
CN19	*1-568-951-91	PIN, CONNECTOR (STRAIGHT) 2P	
CN20	*1-568-951-11	PIN, CONNECTOR 2P	
CN21	*1-506-468-11	PIN, CONNECTOR 3P	
CN22	*1-568-952-11	PIN, CONNECTOR (STRAIGHT) 3P	
CN30	*1-562-719-11	SOCKET, CONNECTOR 10P	
CN40	*1-506-468-11	PIN, CONNECTOR 3P	
CN41	*1-568-951-11	PIN, CONNECTOR 2P	
		<DIODE>	
D1	8-719-200-02	DIODE 10E-2	
D2	8-719-200-02	DIODE 10E-2	
D3	8-719-104-34	DIODE 1S2836	
D4	8-719-104-34	DIODE 1S2836	
D5	8-719-104-34	DIODE 1S2836	
D6	8-719-104-34	DIODE 1S2836	
D7	8-719-104-34	DIODE 1S2836	
D9	8-719-104-34	DIODE 1S2836	
D11	8-719-104-34	DIODE 1S2836	
		<FILTER>	
FL1	1-236-058-11	ENCAPSULATED COMPONENT	
FL2	1-236-058-11	ENCAPSULATED COMPONENT	
FL3	1-236-058-11	ENCAPSULATED COMPONENT	
FL4	1-236-058-11	ENCAPSULATED COMPONENT	
FL5	1-236-058-11	ENCAPSULATED COMPONENT	
		<IC>	
IC1	8-759-043-40	IC UPD78310AGF-3BE	
IC2	8-759-148-14	IC UPD71055GB-3B4	
IC3	8-759-988-66	IC MB89371APF	
IC5	8-759-500-67	IC AM27C010-155DC	
IC6	8-752-322-06	IC CXK5814P-35	
IC7	8-752-322-06	IC CXK5814P-35	
IC8	8-752-322-06	IC CXK5814P-35	
IC9	8-752-321-18	IC CXK1005P	
IC10	8-752-321-18	IC CXK1005P	
IC11	8-759-154-84	IC HDC443V2	
IC12	8-759-988-27	IC SN75188NS	
IC13	8-759-988-24	IC SN75189ANS	
IC14	8-795-926-80	IC SN74HC573BNS	
IC15	8-795-926-80	IC SN74HC573BNS	
IC16	8-759-926-12	IC SN74HC139ANS	
IC17	8-759-926-12	IC SN74HC139ANS	
IC18	8-759-970-26	IC PST523C	
IC19	8-759-600-24	IC M54543L	
IC20	8-759-925-76	IC SN74HC08ANS	
IC21	8-759-916-25	IC SN74HC32ANS	
IC22	8-759-926-48	IC SN74HC244ANS	
IC23	8-759-926-44	IC SN74HC240ANS	
IC24	8-759-925-74	IC SN74HC04ANS	
IC25	8-759-925-74	IC SN74HC04ANS	
IC26	8-759-100-95	IC UPC324G2	
IC27	8-759-100-93	IC UPC393G2	
IC28	8-759-100-97	IC UPC339G2	
IC29	8-759-926-44	IC SN74HC240ANS	

Ref.No	Part No.	Description	Remark
		<INDUCTOR>	
L1	1-412-532-11	INDUCTOR 39UH	
		<TRANSISTOR>	
Q1	8-729-901-04	TRANSISTOR DTA114EK	
Q2	8-729-901-00	TRANSISTOR DTC124EK	
Q3	8-729-177-22	TRANSISTOR 2SB772-Q	
Q4	8-729-177-22	TRANSISTOR 2SB772-Q	
Q5	8-729-101-73	TRANSISTOR 2SD992A-P	
Q6	8-729-101-73	TRANSISTOR 2SD992A-P	
Q7	8-729-101-73	TRANSISTOR 2SD992A-P	
Q8	8-729-101-73	TRANSISTOR 2SD992A-P	
Q9	8-729-101-73	TRANSISTOR 2SD992A-P	
Q10	8-729-101-73	TRANSISTOR 2SD992A-P	
Q11	8-729-100-66	TRANSISTOR 2SC1623	
Q12	8-729-100-66	TRANSISTOR 2SC1623	
		<RESISTOR>	
R1	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R2	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R4	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R5	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R6	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R7	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R8	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R9	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R10	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R11	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R12	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R13	1-207-678-00	WIREWOUND 10 10% 5W F	
R14	1-207-678-00	WIREWOUND 10 10% 5W F	
R15	1-207-678-00	WIREWOUND 10 10% 5W F	
R16	1-249-385-11	CARBON 2.2 5% 1/4W	
R17	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R18	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R19	1-260-099-11	CARBON 1K 5% 1/2W	
R20	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R21	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R22	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R23	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R24	1-249-390-11	CARBON 5.6 5% 1/4W	
R25	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R26	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R27	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R28	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R29	1-216-093-00	METAL GLAZE 68K 5% 1/10W	
R30	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R31	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R32	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R33	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R34	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R35	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R36	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R37	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R38	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R39	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R40	1-216-049-00	METAL GLAZE 1K 5% 1/10W	

When indicating parts by reference number, please include the board name.

SY-9

Ref.No	Part No.	Description			Remark
R42	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R43	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R44	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R45	1-216-037-00	METAL GLAZE	330	5%	1/10W
R46	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R47	1-216-037-00	METAL GLAZE	330	5%	1/10W
R48	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R49	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R50	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R51	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R52	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R53	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R54	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R55	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R56	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R57	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R58	1-216-037-00	METAL GLAZE	330	5%	1/10W
R59	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R60	1-216-037-00	METAL GLAZE	330	5%	1/10W
R61	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R62	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R63	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R64	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R65	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R66	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R67	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R68	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R69	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R70	1-216-037-00	METAL GLAZE	330	5%	1/10W
R71	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R72	1-216-037-00	METAL GLAZE	330	5%	1/10W
R73	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R74	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R75	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R76	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R77	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R78	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R79	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R80	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R81	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R82	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R83	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R84	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R85	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R86	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R87	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R88	1-216-295-00	METAL GLAZE	0	5%	1/10W
R89	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R90	1-216-043-00	METAL GLAZE	560	5%	1/10W
R91	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R92	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R93	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R94	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R95	1-216-033-00	METAL GLAZE	220	5%	1/10W
R96	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R97	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R98	1-216-025-00	METAL GLAZE	100	5%	1/10W
R99	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R100	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R101	1-216-073-00	METAL GLAZE	10K	5%	1/10W

Ref.No	Part No.	Description			Remark
R102	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R103	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R104	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R105	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R106	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R107	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R108	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R109	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R110	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R111	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R112	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R113	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R114	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R115	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R116	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R117	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R118	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R119	1-216-045-00	METAL GLAZE	680	5%	1/10W
R120	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R121	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R132	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R133	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R134	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R135	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R136	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R137	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R140	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R141	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R143	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R144	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R145	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R146	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R147	1-216-025-00	METAL GLAZE	100	5%	1/10W
R148	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R149	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R150	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R151	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R152	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R153	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R154	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R155	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R156	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R157	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R158	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R159	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R160	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R161	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R162	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R163	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R164	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R165	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R166	1-216-105-00	METAL GLAZE	220K	5%	1/10W
		<VARIABLE RESISTOR>			
RV1	1-238-784-11	RES, ADJ, CERMET 1K			
		<SWITCH>			
S1	1-553-856-00	SWITCH, KEY BOARD			
S3	1-553-856-00	SWITCH, KEY BOARD			

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark
S4	1-553-856-00	SWITCH, KEY BOARD	
S5	1-570-856-11	SWITCH, SLIDE	
S6	1-570-856-11	SWITCH, SLIDE	
		<THERMISTER>	
TH1	1-800-202-XX	THERMISTOR S-10K	
		<CRYSTAL>	
X1	1-567-862-11	VIBRATOR, CRYSTAL 4.9152MHz	
X2	1-567-865-11	VIBRATOR, CRYSTAL 12MHz	
X3	1-577-076-11	VIBRATOR, CRYSTAL 16MHz	
**********			
	*A-8271-103-A	IF-19 BOARD, COMPLETE	
	**********		
		<CAPACITOR>	
C101	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C102	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C103	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C104	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C105	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C106	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C107	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C108	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C109	1-124-234-00	ELECT 22MF 20%	16V
C110	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C111	1-124-234-00	ELECT 22MF 20%	16V
C112	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C200	1-124-234-00	ELECT 22MF 20%	16V
C201	1-124-234-00	ELECT 22MF 20%	16V
C202	1-124-234-00	ELECT 22MF 20%	16V
C203	1-124-234-00	ELECT 22MF 20%	16V
C204	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C205	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C206	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C207	1-124-234-00	ELECT 22MF 20%	16V
C208	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C209	1-124-234-00	ELECT 22MF 20%	16V
C210	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C211	1-124-234-00	ELECT 22MF 20%	16V
C212	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C300	1-124-234-00	ELECT 22MF 20%	16V
C301	1-124-234-00	ELECT 22MF 20%	16V
C302	1-124-234-00	ELECT 22MF 20%	16V
C303	1-124-234-00	ELECT 22MF 20%	16V
C304	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C305	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C306	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C307	1-124-234-00	ELECT 22MF 20%	16V
C308	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C309	1-124-234-00	ELECT 22MF 20%	16V
C310	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C311	1-124-234-00	ELECT 22MF 20%	16V
C312	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C400	1-124-234-00	ELECT 22MF 20%	16V
C401	1-124-234-00	ELECT 22MF 20%	16V
C402	1-124-234-00	ELECT 22MF 20%	16V
C403	1-124-234-00	ELECT 22MF 20%	16V
C404	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C405	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C406	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C407	1-124-234-00	ELECT 22MF 20%	16V
C408	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C409	1-124-234-00	ELECT 22MF 20%	16V
C410	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C411	1-124-234-00	ELECT 22MF 20%	16V
C412	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C500	1-124-234-00	ELECT 22MF 20%	16V
C501	1-124-234-00	ELECT 22MF 20%	16V
C502	1-124-234-00	ELECT 22MF 20%	16V
C503	1-124-234-00	ELECT 22MF 20%	16V
C504	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C505	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C506	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C507	1-124-234-00	ELECT 22MF 20%	16V
C508	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C509	1-124-234-00	ELECT 22MF 20%	16V
C510	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C511	1-124-234-00	ELECT 22MF 20%	16V
C512	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C600	1-124-234-00	ELECT 22MF 20%	16V
C601	1-124-234-00	ELECT 22MF 20%	16V
C602	1-124-234-00	ELECT 22MF 20%	16V
C603	1-124-234-00	ELECT 22MF 20%	16V
C604	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C605	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C606	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C607	1-124-234-00	ELECT 22MF 20%	16V
C608	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C609	1-124-234-00	ELECT 22MF 20%	16V
C610	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C611	1-124-234-00	ELECT 22MF 20%	16V
C612	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C700	1-124-234-00	ELECT 22MF 20%	16V
C701	1-124-234-00	ELECT 22MF 20%	16V
C702	1-124-234-00	ELECT 22MF 20%	16V
C703	1-124-234-00	ELECT 22MF 20%	16V
C704	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C705	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C706	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C707	1-124-234-00	ELECT 22MF 20%	16V
C708	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C709	1-124-234-00	ELECT 22MF 20%	16V
C710	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C711	1-124-234-00	ELECT 22MF 20%	16V
C712	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C801	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C802	1-126-177-11	ELECT 100MF 20%	10V
C803	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C804	1-126-177-11	ELECT 100MF 20%	10V
C805	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C806	1-126-177-11	ELECT 100MF 20%	10V
C807	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C808	1-126-177-11	ELECT 100MF 20%	10V
C810	1-126-177-11	ELECT 100MF 20%	10V
C811	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C812	1-163-038-00	CERAMIC CHIP 0.1MF	25V

When indicating parts by reference number, please include the board name.

IF-19

Ref.No	Part No.	Description	Remark
		<CONNECTOR>	
CN101	*1-569-803-11	CONNECTOR, (S) TERMINAL 4P	
CN102	*1-569-803-11	CONNECTOR, (S) TERMINAL 4P	
CN103	*1-568-942-11	PIN, CONNECTOR 4P	
CN104	*1-568-942-11	PIN, CONNECTOR 4P	
CN303	*1-568-940-11	PIN, CONNECTOR 2P	
CN304	*1-568-940-11	PIN, CONNECTOR 2P	
CN403	*1-568-946-11	PIN, CONNECTOR 8P	
CN404	*1-568-946-11	PIN, CONNECTOR 8P	
CN801	*1-568-941-11	PIN, CONNECTOR 3P	
CN802	*1-568-942-11	PIN, CONNECTOR 4P	
		<DIODE>	
D101	8-719-106-23	DIODE RD7.5M-B2	
D102	8-719-400-18	DIODE MA152WK	
D103	8-719-106-23	DIODE RD7.5M-B2	
D104	8-719-106-23	DIODE RD7.5M-B2	
D201	8-719-106-23	DIODE RD7.5M-B2	
D202	8-719-400-18	DIODE MA152WK	
D203	8-719-106-23	DIODE RD7.5M-B2	
D204	8-719-106-23	DIODE RD7.5M-B2	
D301	8-719-106-23	DIODE RD7.5M-B2	
D302	8-719-400-18	DIODE MA152WK	
D303	8-719-106-23	DIODE RD7.5M-B2	
D304	8-719-106-23	DIODE RD7.5M-B2	
D401	8-719-106-23	DIODE RD7.5M-B2	
D402	8-719-400-18	DIODE MA152WK	
D403	8-719-106-23	DIODE RD7.5M-B2	
D404	8-719-106-23	DIODE RD7.5M-B2	
D501	8-719-106-23	DIODE RD7.5M-B2	
D502	8-719-400-18	DIODE MA152WK	
D503	8-719-106-23	DIODE RD7.5M-B2	
D504	8-719-106-23	DIODE RD7.5M-B2	
D601	8-719-106-23	DIODE RD7.5M-B2	
D602	8-719-400-18	DIODE MA152WK	
D603	8-719-106-23	DIODE RD7.5M-B2	
D604	8-719-106-23	DIODE RD7.5M-B2	
D701	8-719-106-23	DIODE RD7.5M-B2	
D702	8-719-400-18	DIODE MA152WK	
D703	8-719-106-23	DIODE RD7.5M-B2	
D704	8-719-106-23	DIODE RD7.5M-B2	
		<FILTER>	
FL101	1-236-101-11	ENCAPSULATED COMPONENT	
FL102	1-236-101-11	ENCAPSULATED COMPONENT	
FL201	1-236-101-11	ENCAPSULATED COMPONENT	
FL202	1-236-101-11	ENCAPSULATED COMPONENT	
FL301	1-236-101-11	ENCAPSULATED COMPONENT	
FL302	1-236-101-11	ENCAPSULATED COMPONENT	
FL401	1-236-101-11	ENCAPSULATED COMPONENT	
FL402	1-236-101-11	ENCAPSULATED COMPONENT	
FL501	1-236-101-11	ENCAPSULATED COMPONENT	
FL502	1-236-101-11	ENCAPSULATED COMPONENT	
FL601	1-236-101-11	ENCAPSULATED COMPONENT	
FL602	1-236-101-11	ENCAPSULATED COMPONENT	
FL701	1-236-101-11	ENCAPSULATED COMPONENT	
FL702	1-236-101-11	ENCAPSULATED COMPONENT	
		<IC>	
IC101	8-759-710-85	IC NJM2233BD	
IC201	8-759-710-85	IC NJM2233BD	
IC301	8-759-710-85	IC NJM2233BD	
IC401	8-759-710-85	IC NJM2233BD	
IC501	8-759-710-85	IC NJM2233BD	
IC601	8-759-710-85	IC NJM2233BD	
IC701	8-759-710-85	IC NJM2233BD	
		<INDUCTOR>	
L801	1-408-970-21	INDUCTOR 10UH	
L802	1-408-970-21	INDUCTOR 10UH	
L803	1-408-970-21	INDUCTOR 10UH	
L804	1-408-970-21	INDUCTOR 10UH	
L805	1-408-970-21	INDUCTOR 10UH	
		<TRANSISTOR>	
Q101	8-729-100-66	TRANSISTOR 2SC1623	
Q102	8-729-100-66	TRANSISTOR 2SC1623	
Q103	8-729-216-22	TRANSISTOR 2SA1162	
Q104	8-729-100-66	TRANSISTOR 2SC1623	
Q105	8-729-100-66	TRANSISTOR 2SC1623	
Q106	8-729-100-66	TRANSISTOR 2SC1623	
Q107	8-729-100-66	TRANSISTOR 2SC1623	
Q201	8-729-100-66	TRANSISTOR 2SC1623	
Q202	8-729-100-66	TRANSISTOR 2SC1623	
Q203	8-729-216-22	TRANSISTOR 2SA1162	
Q204	8-729-100-66	TRANSISTOR 2SC1623	
Q205	8-729-100-66	TRANSISTOR 2SC1623	
Q206	8-729-100-66	TRANSISTOR 2SC1623	
Q207	8-729-100-66	TRANSISTOR 2SC1623	
Q301	8-729-100-66	TRANSISTOR 2SC1623	
Q302	8-729-100-66	TRANSISTOR 2SC1623	
Q303	8-729-216-22	TRANSISTOR 2SA1162	
Q304	8-729-100-66	TRANSISTOR 2SC1623	
Q305	8-729-100-66	TRANSISTOR 2SC1623	
Q306	8-729-100-66	TRANSISTOR 2SC1623	
Q307	8-729-100-66	TRANSISTOR 2SC1623	
Q401	8-729-100-66	TRANSISTOR 2SC1623	
Q402	8-729-100-66	TRANSISTOR 2SC1623	
Q403	8-729-216-22	TRANSISTOR 2SA1162	
Q404	8-729-100-66	TRANSISTOR 2SC1623	
Q405	8-729-100-66	TRANSISTOR 2SC1623	
Q406	8-729-100-66	TRANSISTOR 2SC1623	
Q407	8-729-100-66	TRANSISTOR 2SC1623	
Q501	8-729-100-66	TRANSISTOR 2SC1623	
Q502	8-729-100-66	TRANSISTOR 2SC1623	
Q503	8-729-216-22	TRANSISTOR 2SA1162	
Q504	8-729-100-66	TRANSISTOR 2SC1623	
Q505	8-729-100-66	TRANSISTOR 2SC1623	
Q506	8-729-100-66	TRANSISTOR 2SC1623	
Q507	8-729-100-66	TRANSISTOR 2SC1623	
Q601	8-729-100-66	TRANSISTOR 2SC1623	
Q602	8-729-100-66	TRANSISTOR 2SC1623	
Q603	8-729-216-22	TRANSISTOR 2SA1162	
Q604	8-729-100-66	TRANSISTOR 2SC1623	
Q605	8-729-100-66	TRANSISTOR 2SC1623	
Q606	8-729-100-66	TRANSISTOR 2SC1623	
Q607	8-729-100-66	TRANSISTOR 2SC1623	
Q701	8-729-100-66	TRANSISTOR 2SC1623	
Q702	8-729-100-66	TRANSISTOR 2SC1623	
Q703	8-729-216-22	TRANSISTOR 2SA1162	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description				Remark
Q704	8-729-100-66	TRANSISTOR 2SC1623				
Q705	8-729-100-66	TRANSISTOR 2SC1623				
Q706	8-729-100-66	TRANSISTOR 2SC1623				
Q707	8-729-100-66	TRANSISTOR 2SC1623				
Q802	8-729-100-66	TRANSISTOR 2SC1623				
		<RESISTOR>				
R101	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R102	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R103	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R104	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R105	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R106	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R107	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R108	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R109	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R110	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R111	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R112	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R113	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R114	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R115	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R116	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R117	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R118	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R119	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R120	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R121	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R122	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R123	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R124	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R125	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R126	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R127	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R128	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R201	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R202	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R203	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R204	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R205	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R206	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R207	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R208	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R209	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R210	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R211	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R212	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R213	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R214	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R215	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R216	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R217	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R218	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R219	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R220	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R221	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R222	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R223	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R224	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R225	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R226	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R227	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R228	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R301	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R302	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R303	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R305	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R306	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R307	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R308	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R309	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R310	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R311	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R312	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R313	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R314	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R315	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R316	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R317	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R318	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R319	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R320	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R321	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R322	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R323	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R324	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R325	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R326	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R327	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R328	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R401	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R402	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R403	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R404	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R405	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R406	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R407	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R408	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R409	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R410	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R411	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R413	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R414	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R415	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R416	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R417	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R417	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R418	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R419	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R420	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R421	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R422	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R423	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R424	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R425	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R426	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R427	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R428	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R501	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R502	1-216-631-11	METAL CHIP	150	0.50%	1/10W	

When indicating parts by reference number, please include the board name.

IF-19 **PTC-4** **PTC-26**

Ref.No	Part No.	Description				Remark
R503	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R504	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R505	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R506	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R507	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R508	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R509	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R510	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R511	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R512	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R513	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R514	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R515	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R516	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R517	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R518	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R519	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R520	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R521	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R522	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R523	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R524	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R525	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R526	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R527	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R528	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R601	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R602	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R603	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R604	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R605	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R606	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R607	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R608	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R609	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R610	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R611	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R612	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R613	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R614	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R615	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R616	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R617	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R618	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R619	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R620	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R621	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R622	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R623	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R624	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R625	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R626	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R627	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R628	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R701	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R702	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R703	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R704	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R705	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R706	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R707	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R708	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R709	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R710	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R711	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R712	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R713	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R714	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R715	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R716	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R717	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R718	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R719	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R720	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R721	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R722	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R723	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R724	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R725	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R726	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R727	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R728	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R801	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R802	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
		<VARIABLE RESISTOR>				
RV101	1-238-783-11	RES, ADJ, CERMET 500				
RV201	1-238-783-11	RES, ADJ, CERMET 500				
RV301	1-238-783-11	RES, ADJ, CERMET 500				
RV401	1-238-783-11	RES, ADJ, CERMET 500				
RV501	1-238-783-11	RES, ADJ, CERMET 500				
RV601	1-238-783-11	RES, ADJ, CERMET 500				
RV701	1-238-783-11	RES, ADJ, CERMET 500				
		<SWITCH>				
S301	1-553-638-00	SWITCH, SLIDE				
S401	1-553-638-00	SWITCH, SLIDE				
S801	1-553-638-00	SWITCH, SLIDE				
**********						
	*A-8276-129-A	MOUNTED PCB, PTC-4				
	**********					
		<PHOTO TRANSISTOR>				
PH1001	8-729-015-05	TRANSISTOR, PHOTO, TPS612-B				
		<HARNESS>				
W1002	*1-949-370-11	HARNESS (SENSOR(PEP))				
**********						
	*A-8276-130-A	MOUNTED PCB, PTC-26				
	**********					
		<PHOTO TRANSISTOR>				
PH1003	8-729-015-05	TRANSISTOR, PHOTO, TPS612-B				
		<HARNESS>				
W1006	*1-949-373-11	HARNESS (SENSOR(JP))				

When indicating parts by reference number, please include the board name.

PTC-25 PTC-24 PTC-23 SW-32 SW-36 SW-37 S-8 PTC-3 SU-5 SW-31

Ref.No	Part No.	Description	Remark
	*A-8276-131-A	MOUNTED PCB, PTC-25	
		<DIODE>	
D1003	8-719-024-91	DIODE, PHOTO, SIR-481ST3F	
		<HARNESS>	
W1005	*1-949-372-11	HARNESS (SENSOR(JL))	
	*A-8276-132-A	MOUNTED PCB, PTC-24	
		<PHOTO TRANSISTOR>	
PH1002	8-729-015-05	TRANSISTOR, PHOTO, TPS612-B	
	*A-8276-133-A	MOUNTED PCB, PTC-23	
		<DIODE>	
D1002	8-719-024-91	DIODE, PHOTO, SIR-481ST3F	
		<HARNESS>	
W1003	*1-949-371-11	HARNESS (SENSOR(RCL))	
	*A-8276-134-A	MOUNTED PCB, SW-32	
		<SWITCH>	
S1002	1-572-616-11	SWITCH, PUSH (1 KEY)	
S1003	1-572-616-11	SWITCH, PUSH (1 KEY)	
S1004	1-572-616-11	SWITCH, PUSH (1 KEY)	
S1005	1-572-616-11	SWITCH, PUSH (1 KEY)	
		<HARNESS>	
W1013	*1-949-376-11	HARNESS (SENSOR(RMS))	
	*A-8276-135-A	MOUNTED PCB, SW-36	
		<PHOTO DIODE>	
PH1007	8-749-920-95	DIOTE, PHOTO, GP2S22	
		<HARNESS>	
W1014	*1-949-379-11	HARNESS (SENSOR(PC1))	
	3-701-439-41	WASHER	

Ref.No	Part No.	Description	Remark
	*A-8276-136-A	MOUNTED PCB, SW-37	
		<PHOTO DIODE>	
PH1008	8-749-920-95	DIOTE, PHOTO, GP2S22	
	3-701-439-41	WASHER	
	*A-8276-137-A	MOUNTED PCB, S-8	
		<SWITCH>	
S1001	1-572-988-11	SWITCH, SS6GL13D	
		<HARNESS>	
W1008	*1-949-377-11	HARNESS (SENSOR(TS))	
	*A-8276-138-A	MOUNTE PCB, PTC-3	
		<DIODE>	
D1001	8-719-024-91	DIODE, PHOTO, SIR-481ST3F	
		<HARNESS>	
W1001	*1-949-369-11	HARNESS (SENSOR(PEL))	
	*1-641-670-11	SU-5 BOARD	
		<HARNESS>	
W1011	*1-949-368-11	HARNESS B(HM)	
	*A-8276-140-A	MOUNTED PCB, SW-31	
		<PHOTO DIODE>	
PH1005	8-719-800-95	DIODE TLP805	
		<HARNESS>	
W1007	*1-949-375-11	HARNESS (SENSOR(HP))	

When indicating parts by reference number, please include the board name.

SU-4 SW-30 SW-35 DSC-8 IF-21 DSC-9 KY-12

Ref.No	Part No.	Description	Remark
	*1-641-669-11	SU-4 BOARD	
	**********		
		<HARNESS>	
W1010	*1-949-367-11	HARNESS A(RM)	
**********			
	*A-8276-142-A	MOUNTED PCB, SW-30	
	**********		
		<PHOTO DIODE>	
PH1004	8-749-920-95	DIODE, PHOTO, GP2S22	
		<HARNESS>	
W1012	*1-949-374-11	HARNESS (SENSOR(RRT))	
	3-701-439-41	WASHER	
**********			
	*A-8276-143-A	MOUNTED PCB, SW-35	
	**********		
		<PHOTO DIODE>	
PH1006	8-719-800-95	DIODE TLP805	
		<HARNESS>	
W1009	*1-949-378-11	HARNESS (SENSOR(HHP))	
**********			
	*A-8276-144-A	MOUNTED PCB, DSC-8	
	**********		
		<CONNECTOR>	
CN1101	*1-568-946-11	PIN, CONNECTOR 8P	
		<VARIABLE RESISTOR>	
RV1101	1-241-737-11	RES, VAR, CARBON 10K/10K/10K GAIN/HUE/COLOR	
		<SWITCH>	
S1101	1-570-857-11	SWITCH, SLIDE VAR←→AGC	
**********			
	*A-8276-145-A	IF-21 BOARD, COMPLETE	
	**********		
	1-236-163-11	ENCAPSULATED COMPONENT	
		<CONNECTOR>	
CN901	*1-568-948-11	PIN, CONNECTOR 10P	
CN902	*1-563-142-11	CONNECTOR,D-SUB(MOUNT TYPE)25P	
		<JACK>	
J901	1-507-967-11	JACK	

Ref.No	Part No.	Description	Remark
**********			
	*A-8276-146-A	MOUNTED PCB, DSC-9	
	**********		
		<CAPACITOR>	
C1	1-124-234-00	ELECT 22MF 20% 16V	
		<CONNECTOR>	
CN1201	*1-568-943-11	PIN, CONNECTOR 5P	
CN1202	*1-564-027-00	PIN, CONNECTOR 2P	
CN1203	*1-564-028-00	PIN, CONNECTOR 3P	
CN1204	*1-568-941-11	PIN, CONNECTOR 3P	
		<TRANSISTOR>	
Q1	8-729-100-66	TRANSISTOR 2SC1623	
Q2	8-729-205-95	TRANSISTOR 2SB822-Q	
		<RESISTOR>	
R1	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R3	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R4	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
		<VARIABLE RESISTOR>	
RV1201	1-241-737-11	RES, VAR, CARBON 10K/10K/10K RED/GREEN/BLUE	
**********			
	*A-8276-147-A	MOUNTED PCB, KY-12	
	**********		
	1-808-894-11	DISPLAY PANEL, LIQUID CRYSTAL	
	7-685-104-19	SCREW +P 2X6 TYPE2 SLIT	
		<CAPACITOR>	
C1	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C2	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C4	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C5	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C7	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C8	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C10	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C11	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C15	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C18	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C20	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C22	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C24	1-124-589-11	ELECT 47MF 20% 10V	
C26	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C28	1-124-589-11	ELECT 47MF 20% 10V	
C30	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C31	1-124-584-00	ELECT 100MF 20% 10V	
C32	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C33	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C34	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark
C35	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C36	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C37	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C38	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C39	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C40	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C41	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C42	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C43	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C44	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
C45	1-163-275-11	CERAMIC CHIP 0.001MF	5%	50V	
		<CONNECTOR>			
CN3	1-568-954-11	PIN, CONNECTOR 5P			
CN4	1-568-955-11	PIN, CONNECTOR 6P			
CN5	*1-568-941-11	PIN, CONNECTOR 3P			
		<DIODE>			
D1	8-719-104-34	DIODE 1S2836			
D2	8-719-104-34	DIODE 1S2836			
D3	8-719-200-02	DIODE 10B-2			
D4	8-719-940-89	DIODE SLP655B-50			
D5	8-719-975-79	DIODE SLP-255B-51-A			
		<IC>			
IC1	8-759-988-13	IC LM393PS			
IC2	8-759-059-62	IC H8/325KY			
IC3	8-759-970-26	IC PST523C			
IC4	8-749-900-69	IC BX-1457			
		<INDUCTOR>			
L1	1-408-978-21	INDUCTOR 47UH			
		<TRANSISTOR>			
Q1	8-729-100-66	TRANSISTOR 2SC1623			
Q2	8-729-100-66	TRANSISTOR 2SC1623			
		<RESISTOR>			
R15	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R16	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R17	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R18	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R19	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R20	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R21	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R22	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R23	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R24	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R25	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R26	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R27	1-216-085-00	METAL GLAZE 33K	5%	1/10W	
R28	1-216-077-00	METAL GLAZE 15K	5%	1/10W	
R29	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R30	1-216-043-00	METAL GLAZE 560	5%	1/10W	
R31	1-216-017-00	METAL GLAZE 47	5%	1/10W	
R32	1-216-073-00	METAL GLAZE 10K	5%	1/10W	
R33	1-216-025-00	METAL GLAZE 100	5%	1/10W	
R34	1-216-049-00	METAL GLAZE 1K	5%	1/10W	

Ref.No	Part No.	Description			Remark
R35	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R36	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R37	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R38	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R39	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R40	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R41	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R42	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R43	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R44	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R45	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R46	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R47	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R48	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R49	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R50	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R51	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R52	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R53	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R54	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R55	1-216-089-00	METAL GLAZE 47K	5%	1/10W	
R56	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	
R57	1-216-029-00	METAL GLAZE 150	5%	1/10W	
R58	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W	
R59	1-216-029-00	METAL GLAZE 150	5%	1/10W	
R60	1-216-109-00	METAL GLAZE 330K	5%	1/10W	
R61	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	
R62	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	
R63	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	
R64	1-216-042-00	METAL GLAZE 510	5%	1/10W	
R65	1-216-049-00	METAL GLAZE 1K	5%	1/10W	
R66	1-216-001-00	METAL GLAZE 10	5%	1/10W	
R67	1-216-042-00	METAL GLAZE 510	5%	1/10W	
R68	1-216-042-00	METAL GLAZE 510	5%	1/10W	
R69	1-216-001-00	METAL GLAZE 10	5%	1/10W	
R70	1-216-001-00	METAL GLAZE 10	5%	1/10W	
R71	1-216-042-00	METAL GLAZE 510	5%	1/10W	
R72	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W	
		<SWITCH>			
S1	1-554-303-21	SWITCH, KEY BOARD			
S2	1-554-303-21	SWITCH, KEY BOARD			
S3	1-554-303-21	SWITCH, KEY BOARD			
S4	1-554-303-21	SWITCH, KEY BOARD			
S5	1-554-303-21	SWITCH, KEY BOARD			
S6	1-554-303-21	SWITCH, KEY BOARD			
S7	1-554-303-21	SWITCH, KEY BOARD			
S8	1-554-303-21	SWITCH, KEY BOARD			
S9	1-554-303-21	SWITCH, KEY BOARD			
S10	1-554-303-21	SWITCH, KEY BOARD			
S11	1-554-303-21	SWITCH, KEY BOARD			
		<CRYSTAL>			
X1	1-577-110-11	VIBRATOR, CRYSTAL 20MHz			

****

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description		Remark
⚠	*1-413-688-11	POWER SUPPLY (VTR-P3A) BOARD		
	**********			
	9-901-930-01	PRINTED CIRCUIT BOARD P-906082A		
	9-902-093-01	PRINTED CIRCUIT BOARD P-906082B		
	9-994-165-01	PIN, CHECK		
⚠	9-995-335-01	CLIP, FUSE (FOR F2)		
	9-901-947-01	COVER, FUSE (FOR F61)		
		<CAPACITOR>		
C1	⚠9-901-953-01	CERAMIC	220P	125V
C11	9-901-958-01	ELECT	1200	200V
C13	1-136-165-00	FILM	0.1	50V
C16	1-129-751-00	FILM	0.1	400V
C17-1	9-901-959-01	CERAMIC	1500P	2KV
C17-2	9-901-959-01	CERAMIC	1500P	2KV
C2	⚠9-901-953-01	CERAMIC	220P	125V
C21	1-124-918-11	ELECT	47	35V
C22	1-136-165-00	FILM	0.1	50V
C23	1-136-165-00	FILM	0.1	50V
C24	1-126-101-11	ELECT	100	10V
C25	1-136-157-00	FILM	0.022	50V
C26	1-136-165-00	FILM	0.1	50V
C27	9-901-960-01	ELECT	27	35V
C28-1	⚠9-901-966-01	CERAMIC	220P	125V
C4-1	⚠9-901-953-01	CERAMIC	220P	125V
C41	1-124-557-11	ELECT	1000	25V
C42	1-124-557-11	ELECT	1000	25V
C43	1-124-557-11	ELECT	1000	25V
C45	1-136-165-00	FILM	0.1	50V
C46	1-136-165-00	FILM	0.1	50V
C47	1-136-165-00	FILM	0.1	50V
C48	1-124-360-00	ELECT	1000	16V
C49	1-124-360-00	ELECT	1000	16V
C5	⚠9-901-955-01	FILM	0.22	125V
C50	1-124-360-00	ELECT	1000	16V
C51	9-901-961-01	CERAMIC	1000P	1KV
C52	9-901-961-01	CERAMIC	1000P	1KV
C54	9-901-962-01	ELECT	2700	35V
C56	9-901-962-01	ELECT	2700	35V
C57	9-901-962-01	ELECT	2700	35V
C58	1-124-912-11	ELECT	330	50V
C59	1-124-912-11	ELECT	330	50V
C61	9-901-963-01	CERAMIC	1000P	1KV
C62	9-901-964-01	ELECT	1200	35V
C63	1-136-165-00	FILM	0.1	50V
C64	1-130-994-11	FILM	0.033	50V
C65	1-130-072-00	FILM	0.022	50V
C66	1-130-072-00	FILM	0.022	50V
C67	9-901-965-01	ELECT	2700	10V
C68	9-901-968-01	ELECT	10000	6.3V
C69	1-136-153-00	FILM	0.01	50V
C7	⚠9-901-956-01	FILM	0.47	125V
C70	1-136-165-00	FILM	0.1	50V
C8	⚠9-901-955-01	FILM	0.22	125V
C81	1-124-903-11	ELECT	1	50V
C82	1-124-918-11	ELECT	47	35V
C83	1-136-499-11	FILM	0.047	50V
C84	1-130-014-00	FILM	470P	50V
C85	1-124-482-11	ELECT	33	35V

Ref.No	Part No.	Description		Remark
C86	9-901-967-01	CERAMIC	270P	1KV
C89	1-136-499-11	FILM	0.047	50V
C91	1-136-165-00	FILM	0.1	50V
C92	1-136-165-00	FILM	0.1	50V
C93	1-136-165-00	FILM	0.1	50V
C94	9-901-967-01	CERAMIC	270P	1KV
		<CONNECTOR>		
CN1	*1-506-473-11	CONNECTOR		
CN10	⚠*1-564-419-11	CONNECTOR		
CN12	*1-506-475-11	CONNECTOR		
CN2	*1-506-479-11	CONNECTOR		
CN4	*1-506-474-11	CONNECTOR		
CN5	*1-562-716-11	CONNECTOR		
CN6	*9-901-929-01	CONNECTOR		
CN7	⚠*1-564-419-11	CONNECTOR		
CN9	⚠*1-564-419-11	CONNECTOR		
		<DIODE>		
D11	8-719-510-26	DIODE D1NL20		
D16	9-901-937-01	DIODE DFG2A8		
D21	8-719-510-17	DIODE S2LA20		
D41	8-719-500-66	DIODE S3LA20		
D42	8-719-500-66	DIODE S3LA20		
D61	8-719-500-70	DIODE D5S4M		
D62	8-719-503-40	DIODE S3V40		
D63	8-719-975-85	DIODE BRB82-004		
D81	9-984-364-01	DIODE 1S2075K		
D82	9-984-364-01	DIODE 1S2075K		
D83	9-984-364-01	DIODE 1S2075K		
D84	8-719-913-44	DIODE ERA82-004		
PC21	⚠9-901-940-01	PHOTO COUPLER PC111LS		
PC22	⚠9-901-940-01	PHOTO COUPLER PC111LS		
POS51	9-901-946-01	POSITIVE THERMISTOR		
RF11	8-719-500-16	DIODE D5SB60		
RF41	9-992-099-01	DIODE D5LCA20		
RF51	8-719-981-44	DIODE ESAC92M-02		
RF52	8-719-500-41	DIODE D8LCA20		
RF61	8-719-989-43	DIODE ESAD82M-004		
RT61	9-901-952-01	THERMISTER 10KD-5		
TH11	9-901-938-01	TRIAC AC10DGM		
TH61	9-901-939-01	THYRISTOR 5P4M		
ZD61	8-719-109-89	DIODE RD5.6ESB2		
ZD81	8-719-109-85	DIODE RD5.1ESB2		
ZD82	8-719-930-61	DIODE HZ30-1		
		<FUSE>		
F2	⚠9-901-941-01	FUSE	6A 125V	
F61	⚠9-901-945-01	FUSE	3.15A 125V	
		<IC>		
H21	9-901-943-01	IC RHA18-1		
H61	9-901-944-01	IC RHA11-1		

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description			Remark
M41	9-901-942-01	IC PQ12RF11			
M42	9-901-942-01	IC PQ12RF11			
M43	8-759-518-68	IC PQ12RF21			
M81	9-992-107-01	IC AN14317			
M82	1-807-117-11	IC TA75358P			
		<INDUCTOR>			
L1	⚠ 9-901-931-01	CHOKE COIL	5.6mH 2.5A		
L4	⚠ 9-901-931-01	CHOKE COIL	5.6mH 2.5A		
L61	9-901-932-01	CHOKE COIL	1uH 8A		
L62	9-901-933-01	CHOKE COIL	90uH 5A		
		<TRANSISTOR>			
Q11	9-901-935-01	TRANSISTOR 2SK1018			
Q51	8-729-173-36	TRANSISTOR 2SA733			
Q61	9-901-936-01	TRANSISTOR 2SC2750			
Q62	8-729-202-44	TRANSISTOR 2SA1020			
Q63	8-729-173-36	TRANSISTOR 2SA733			
		<RESISTOR>			
R1	⚠ 9-994-152-01	METAL GLAZE	220K	1W	
R11	⚠ 9-995-339-01	FUSE	12 135℃	5W	
R12	⚠ 1-215-908-00	METAL GLAZE	33	3W	
R13	1-249-414-11	CARBON	560	1/4W	
R15	⚠ 1-215-858-00	METAL GLAZE	15	1W	
R16-1	⚠ 9-994-154-01	CEMENT	27K	5W	
R16-2	⚠ 9-994-154-01	CEMENT	27K	5W	
R17	⚠ 1-207-632-00	METAL GLAZE	47	3W	
R18	⚠ 9-901-948-01	METAL PLATE	0.1	5W	
R21-1	⚠ 1-215-902-11	METAL GLAZE	47K	2W	
R22	1-249-435-11	CARBON	33K	1/4W	
R23	9-994-131-01	CARBON	390	1/4W	
R24	9-994-125-01	CARBON	100	1/4W	
R45	1-249-418-11	CARBON	1.2K	1/4W	
R46	1-249-418-11	CARBON	1.2K	1/4W	
R47	1-249-418-11	CARBON	1.2K	1/4W	
R48	1-249-422-11	CARBON	2.7K	1/4W	
R49	1-249-422-11	CARBON	2.7K	1/4W	
R50	1-249-422-11	CARBON	2.7K	1/4W	
R51	1-215-907-11	METAL GLAZE	22	3W	
R52	1-215-907-11	METAL GLAZE	22	3W	
R54	1-216-479-11	METAL GLAZE	560	3W	
R55	9-901-951-01	CEMENT	470	5W	
R61	1-215-907-11	METAL GLAZE	22	3W	
R62	9-994-133-01	CARBON	1K	1/2W	
R63	1-249-402-11	CARBON	56	1/4W	
R64	9-994-125-01	CARBON	100	1/4W	
R65	1-249-434-11	CARBON	27K	1/4W	
R66	9-994-135-01	CARBON	1K	1/4W	
R67	9-994-135-01	CARBON	1K	1/4W	
R68	9-994-135-01	CARBON	1K	1/4W	
R69-1	9-901-949-01	METAL PLATE	0.22	5W	
R69-2	9-901-949-01	METAL PLATE	0.22	5W	
R70	9-994-135-01	CARBON	1K	1/4W	
R72	1-249-410-11	CARBON	270	1/4W	
R73	1-249-408-11	CARBON	180	1/4W	
R74	9-901-950-01	METAL PLATE	0.05	2W	
R75	1-249-393-11	CARBON	10	1/4W	
R76	9-994-135-01	CARBON	1K	1/4W	
R81	1-249-409-11	CARBON	220	1/4W	

Ref.No	Part No.	Description			Remark
R82	9-994-135-01	CARBON	1K	1/4W	
R83	9-994-145-01	CARBON	8.2K	1/4W	
R84	1-249-409-11	CARBON	220	1/4W	
R85	1-247-844-11	CARBON	3.6K	1/4W	
R86	1-249-438-11	CARBON	56K	1/4W	
R87	9-901-954-01	CARBON	2.7K	1/2W	
R88	9-994-137-01	CARBON	1.8K	1/4W	
R89	1-249-418-11	CARBON	1.2K	1/4W	
R90	1-249-434-11	CARBON	27K	1/4W	
R93	9-901-957-01	CARBON	220	1/2W	
R94	1-215-869-11	METAL GLAZE	1K	1W	
R95	9-994-144-01	CARBON	5.6K	1/4W	
R96	9-994-135-01	CARBON	1K	1/4W	
R97	1-249-438-11	CARBON	56K	1/4W	
R98	9-994-138-01	CARBON	2.2K	1/4W	
R99	1-249-414-11	CARBON	560	1/4W	
		<VARIABLE RESISTOR>			
RV21	1-228-991-00	RES, ADJ,	2K		
RV61	1-228-989-00	RES, ADJ,	500		
RV81	1-228-990-00	RES, ADJ,	1K		
RV83	1-228-991-00	RES, ADJ,	2K		
		<TRANSFORMER>			
T11	⚠ 9-901-934-01	TRANSFORMER			
**********					
		MISCELLANEOUS			
		**********			
M901	1-541-594-11	MOTOR, STEPPING			
M904	1-541-593-22	MOTOR, DC FAN			
	*1-543-881-11	HEAD, THERMAL (TH55212)			
	⚠*1-413-688-11	REGULATOR, SWITCHING (VTR-P3A)			
	1-507-195-21	SPECIAL REMOTE CONTROL JACK			
	⚠ 1-509-841-00	CONNECTOR, AC OUTLET			
	1-535-316-11	TERMINAL, GROUND (M4)			
	1-541-309-11	MOTOR, L (RF-370C)			
	1-541-593-22	MOTOR, DC FAN			
	⚠ 1-554-880-11	SWITCH, PUSH (AC POWER) (1 KEY)			
	*1-559-969-11	WIRE, FLAT TYPE (16 CORE)			
	1-562-227-21	RECEPTACLE, BNC			
	⚠ 1-580-375-11	INLET 3P			
	*1-690-502-11	WIRE, FLAT TYPE (10 CORE)			
	⚠*1-940-905-12	HARNESS, AC (OUT)			
	*1-949-365-11	HARNESS (MAIN)			
	*1-949-366-11	HARNESS (SUB)			
	*1-949-383-11	HARNESS (BJ)			
	*1-949-384-11	HARNESS (VR)			
	⚠*1-949-385-11	HARNESS (AC(SW1))			
	⚠*1-949-386-11	HARNESS (AC(SW2))			
	*1-949-387-11	HARNESS (AC(IN))			

When indicating parts by reference number, please include the board name.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

Ref.No	Part No.	Description	Remark
		<ACCESSORY & PACKING MATERIALS>	
	1-465-508-21	COMMANDER, REMOTE (RM-5100)	
	1-557-637-11	CABLE, COMMANDER	
⚠	1-558-527-11	CORD, POWER	
	*3-173-438-01	CUSHION (UPPER)	
	*3-173-439-01	CUSHION (LOWER)	
	*3-173-442-01	(5200MD)..INDIVIDUAL CARTON	
	*3-173-443-01	(5250MD)..INDIVIDUAL CARTON	
	3-701-628-00	BAG, POLYETHYLENE	
	3-701-630-00	BAG, POLYETHYLENE	
	3-725-780-01	TRAY	
⚠	3-754-155-41	MANUAL, INSTRUCTION	
	3-754-156-11	CARD, QUICK REFERENCE	
	3-645-289-00	CLIP, WIRE	
	3-660-815-00	CLIP, CABLE	
		<HARDWARE LIST>	
	7-624-102-04	STOP RING 1.5, TYPE -E	
	7-624-104-04	STOP RING 2.0, TYPE -E	
	7-624-105-04	STOP RING 2.3, TYPE -E	
	7-624-106-04	STOP RING 3.0, TYPE -E	
	7-624-109-04	STOP RING 5.0, TYPE -E	
	7-624-111-04	STOP RING 7.0, TYPE -E	
	7-621-773-95	SCREW +B 2.6X6	
	7-628-253-40	SCREW +PS 2X10	
	7-682-545-04	SCREW +B 3X4	
	7-682-547-04	SCREW +BVTT 3X6 (S)	
	7-682-547-09	SCREW +B 3X6	
	7-682-548-04	SCREW +BVTT 3X8 (S)	
	7-682-561-04	SCREW +B 4X8	
	7-682-562-04	SCREW +BVTT 4X10 (S)	
	7-682-646-09	SCREW +PS 3X5	
	7-682-648-09	SCREW +PS 3X8	
	7-682-661-09	SCREW +PS 4X8	
	7-682-655-09	SCREW +PSW 3X30	
	7-682-903-01	SCREW +PWH 3X5	
	7-682-948-01	SCREW +PSW 3X8	
	7-682-949-01	SCREW +PSW 3X10	
	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
	7-685-646-79	SCREW +BTP 3X8 TYPE2 N-S	
	7-688-006-01	W 6, SMALL	

When indicating parts by reference number, please include the board name.

SECTION 8
PARTS REPLACEMENT

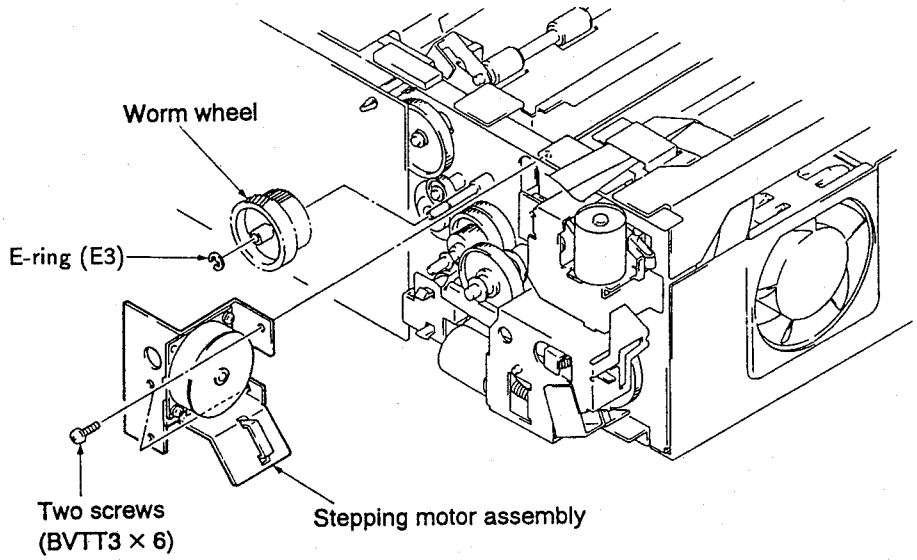
8-1. PREPARATIONS FOR SERVICING AND REPLACEMENT

The mechanism section assembly is removed from the main unit for servicing and replacement of the mechanism section.

8-2. MAINTENANCE, SERVICING, AND REPLACEMENT PROCEDURES

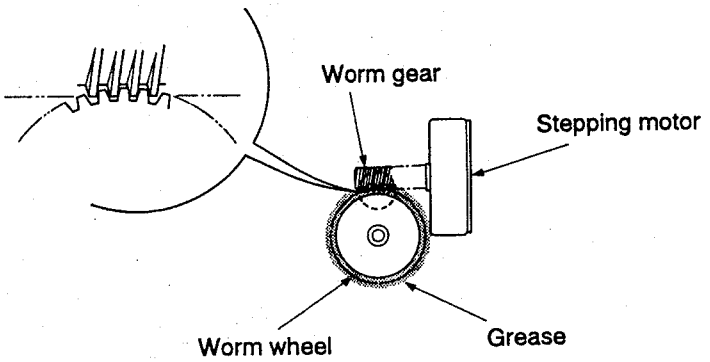
8-2-1. Replacement of Worm Wheel

1) Remove the two screws and remove the stepping motor assembly.
2) Remove the E-ring and pull off the worm wheel from the shaft.



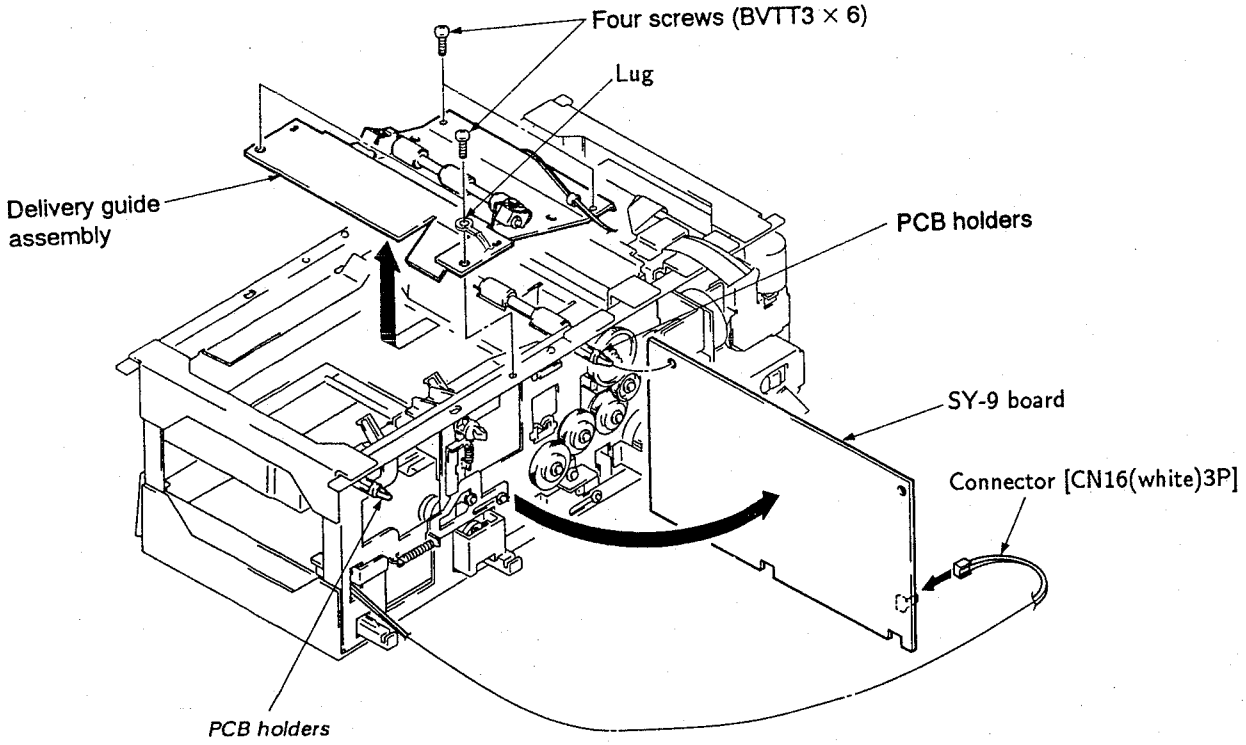
3) Apply a light coat of sony grease around the replacement worm wheel and attach.

Note: Confirm that there is some play between the worm wheel and worm gear.
Sony grease (SGL-701) 7-662-010-08

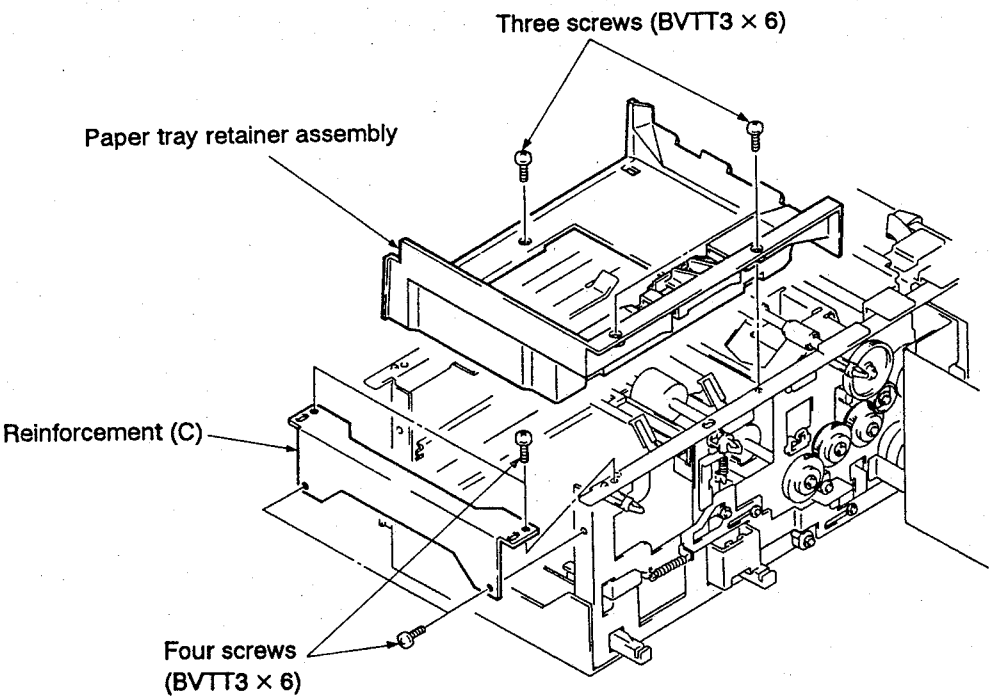


8-2-2. Replacement and Maintenance of Feed Roller

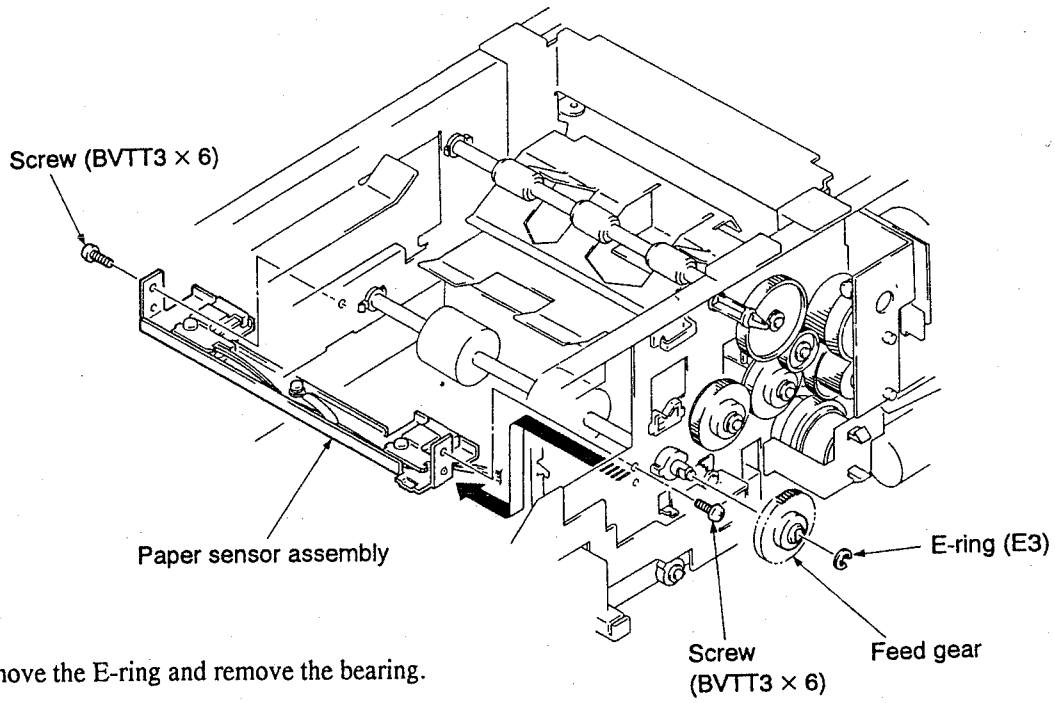
1) Remove the four screws and remove the mechanical shield plate.
2) Remove the four screws, lug and remove the delivery guide assembly.
3) Remove the connector [CN16(white)3P] on the SY-9 board.
4) Push the two claws of the PCB holders and open the SY-9 board.



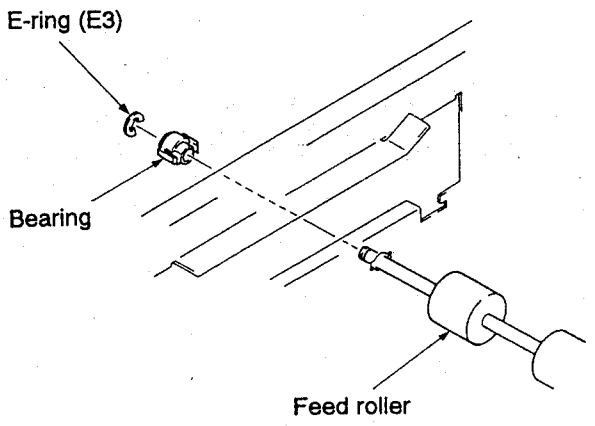
5) Remove the four screws and remove reinforcement (C).
6) Remove the three screws and remove the paper tray retainer assembly.



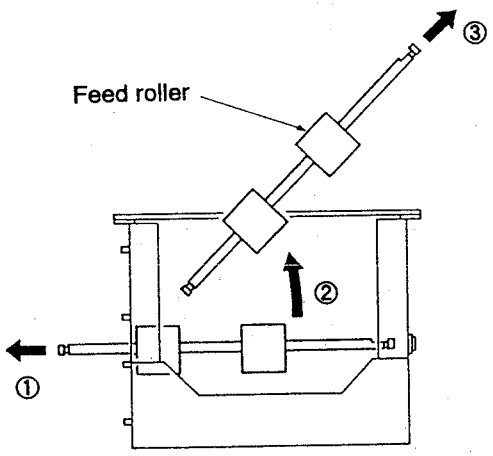
7) Remove the E-ring and pull off the feed gear from the shaft.
8) Remove the two screws and remove the paper sensor assembly.



9) Remove the E-ring and remove the bearing.

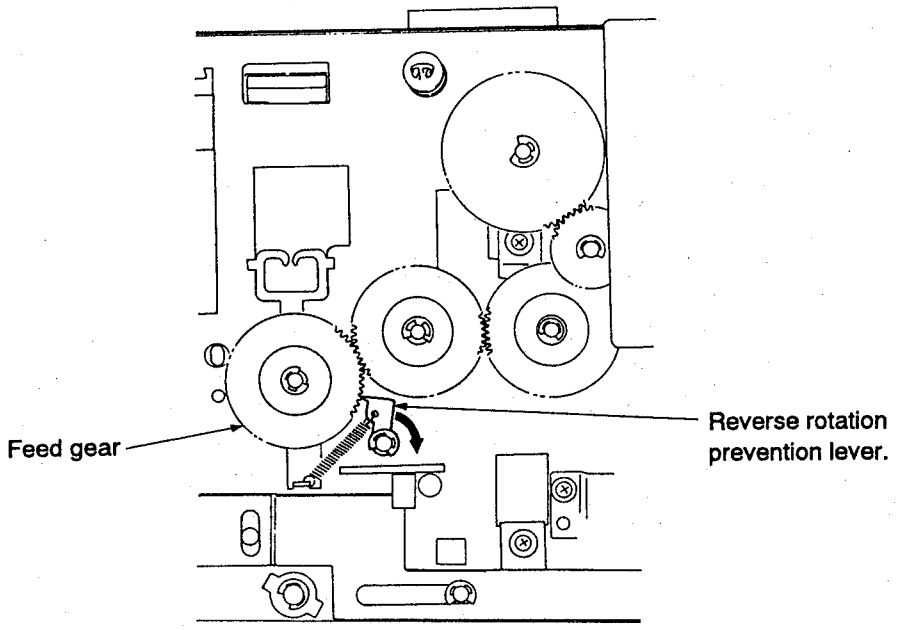


10) Remove the feed roller from the main unit by removing one end and then the other.



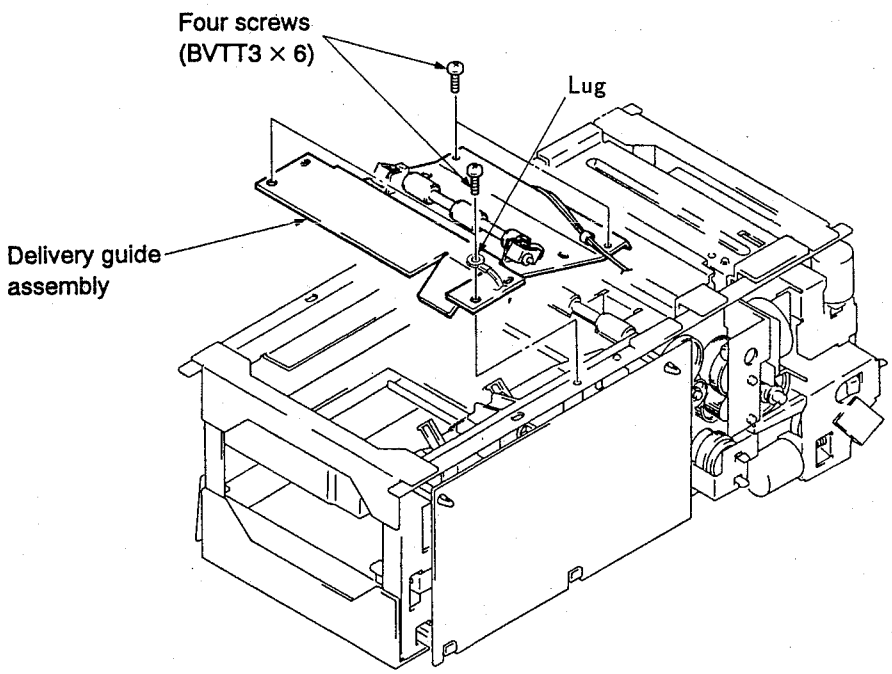
11) Replace the feed roller if worn and apply Sony grease to both ends of the shaft.

Note: When attaching the feed gear, engage the gear with the teeth of the reverse rotation prevention lever while pulling this lever in the clockwise direction.

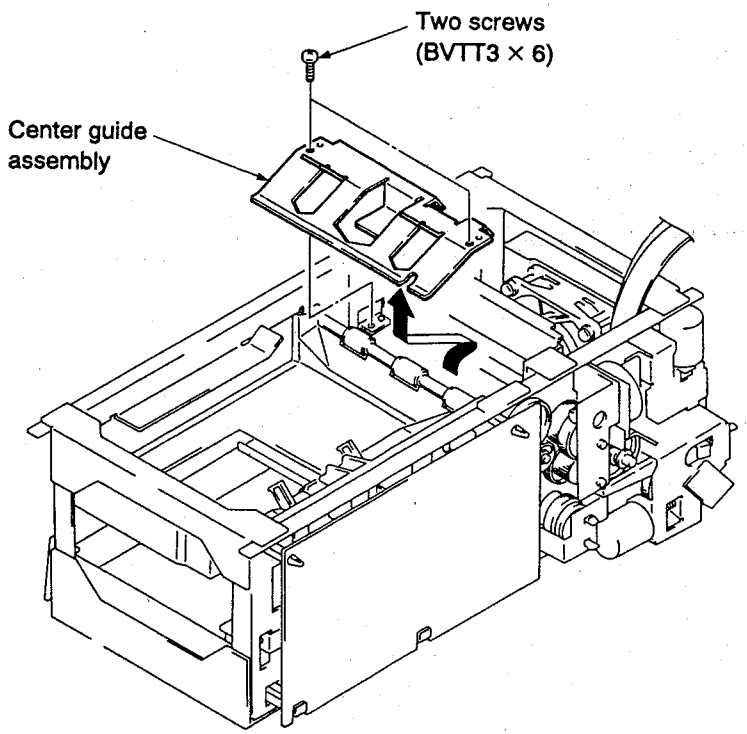


8-2-3. Replacement and Meintenance of Platen

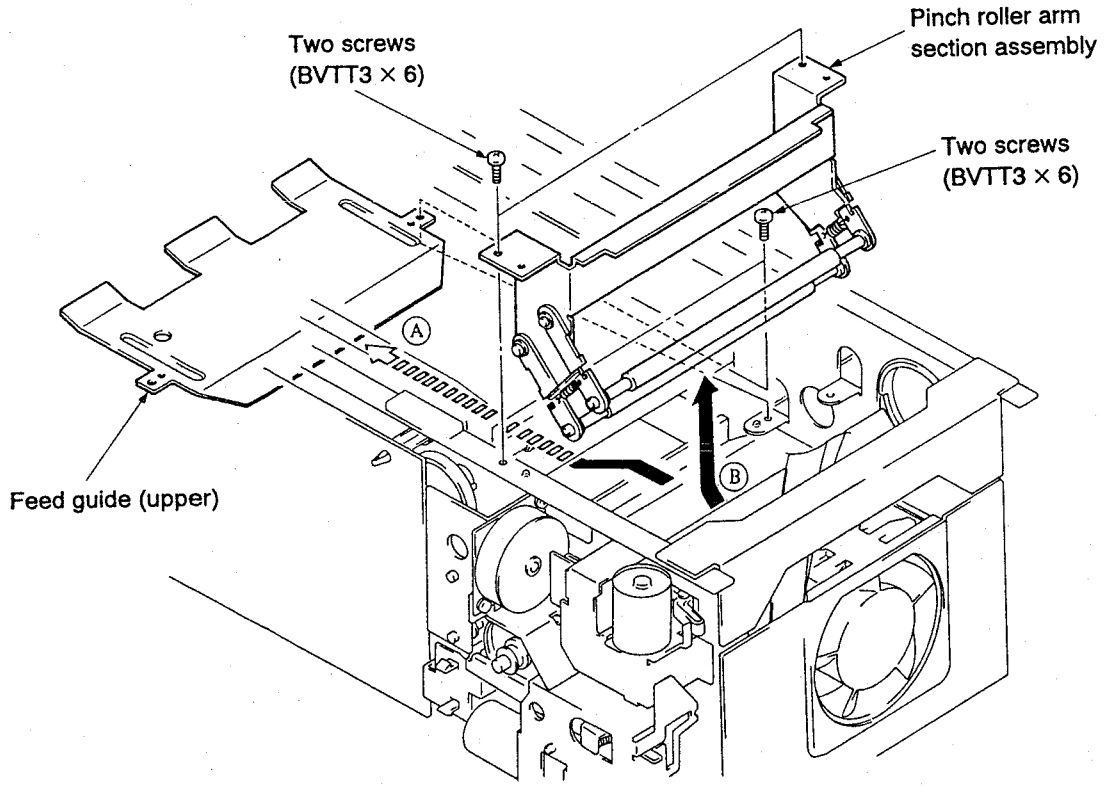
1) Remove the four screws, lug and remove the delivery guide assembly.



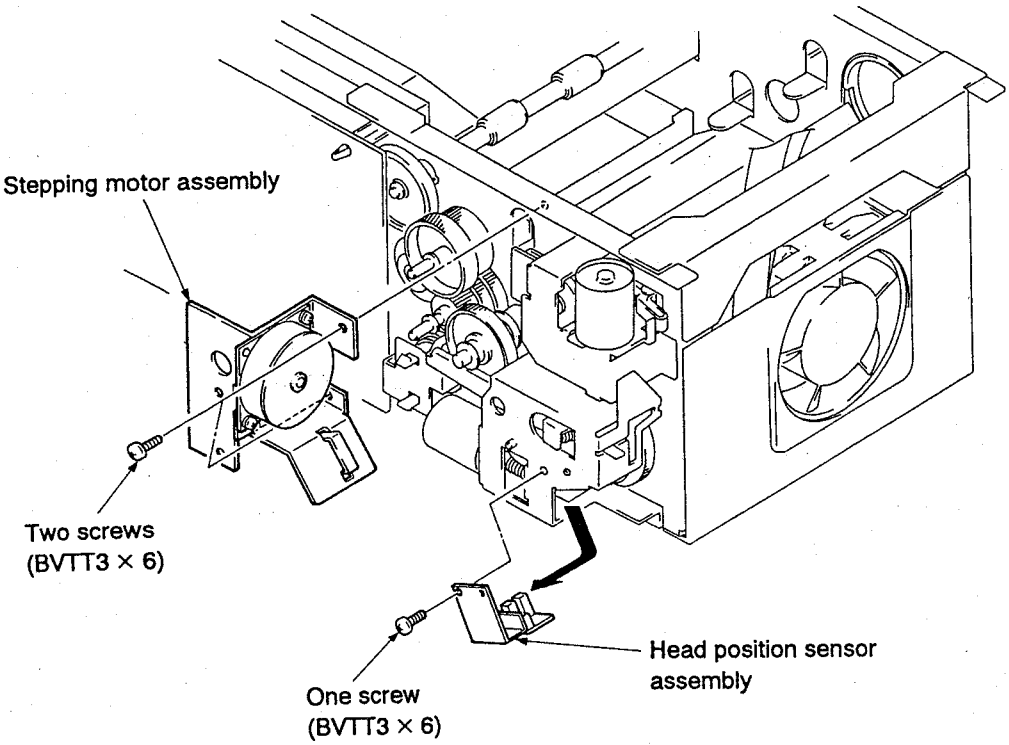
2) Remove the two screws and remove the center guide assembly in the direction of arrow.



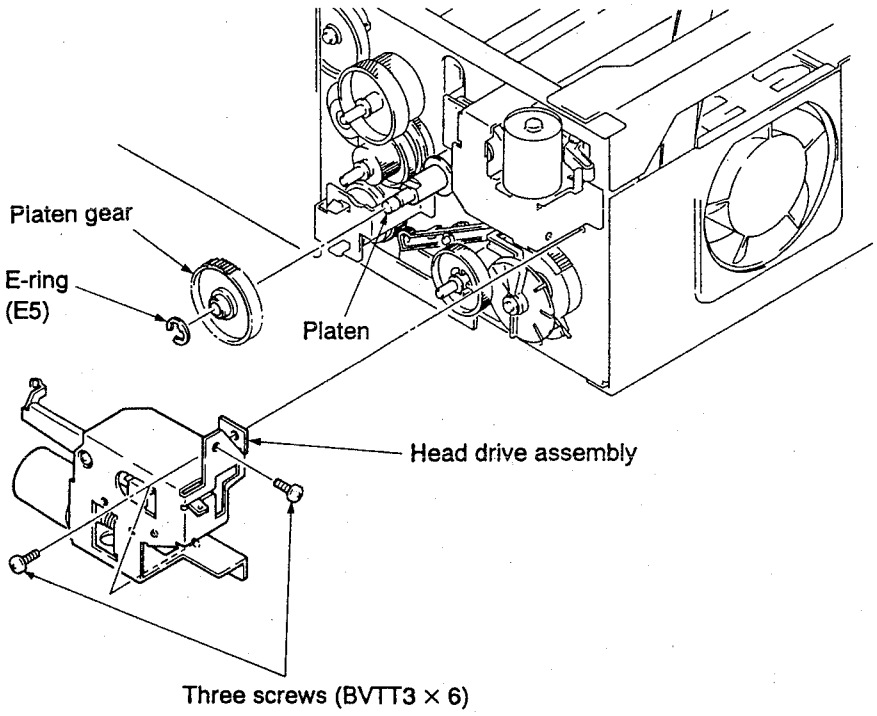
3) Remove the two screws and remove the feed guide (upper) in the direction of arrow Ⓐ.
4) Remove the two screws and remove the pinch roller arm section assembly in the direction of arrow Ⓑ.



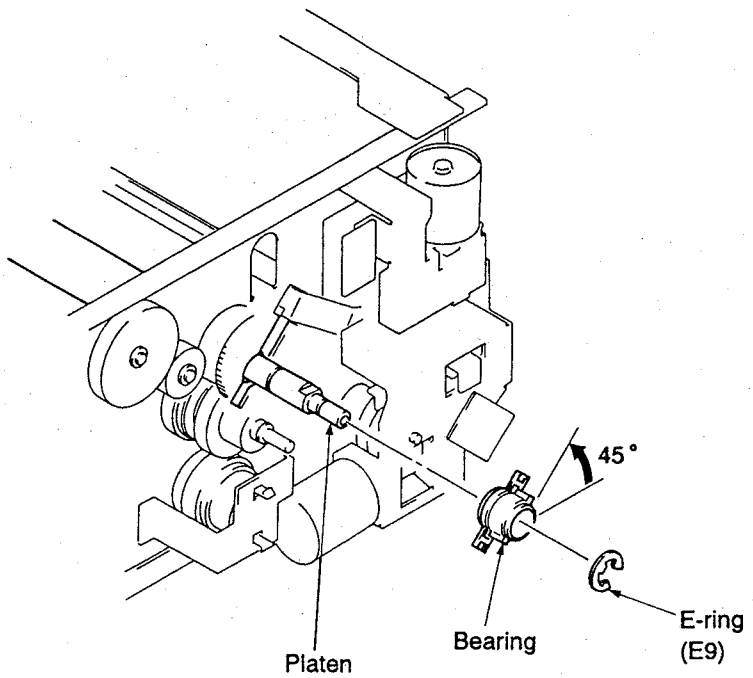
5) Remove the two screws and remove the stepping motor assembly.
6) Remove the single screw and remove the head position sensor assembly in the direction of arrow.



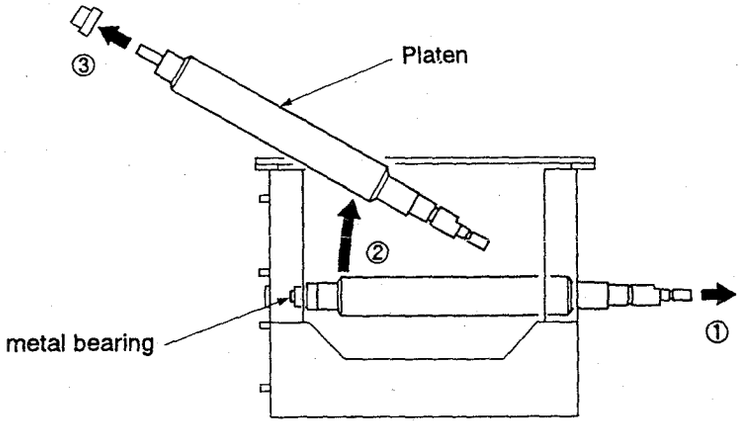
7) Remove the three screws and remove the head drive assembly.
8) Remove the E-ring and pull off the platen gear from the shaft.



9) Remove the E-ring, rotate the bearing 45°, and remove from the shaft.

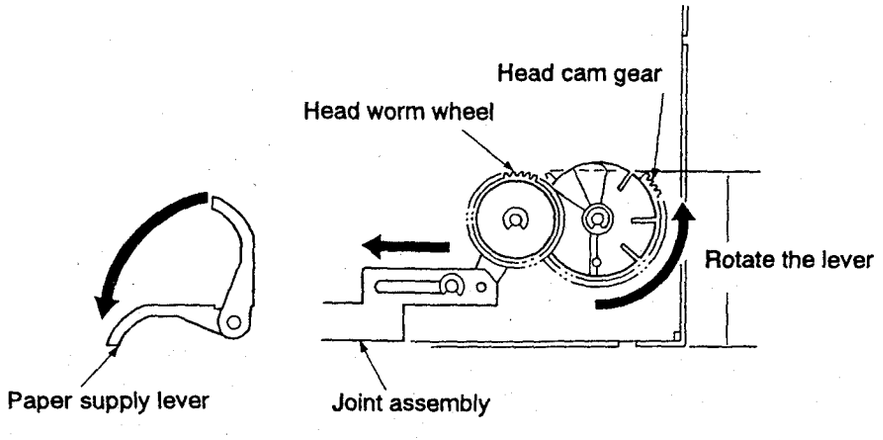


10) Remove the metal bearing and remove the platen by pulling out one end at a time.



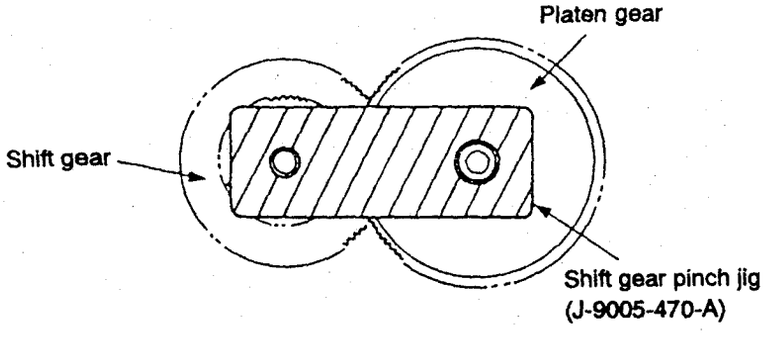
11) Replace the platen. (Apply Sony oil to the attachment position for the shaft holder.)

Note 1: In case, replacing or removing head drive assembly, rotate the head cam gear in the counterclockwise direction, stop when the cut-out section is level, and attach the head drive assembly after making sure that the paper supply lever comes down.



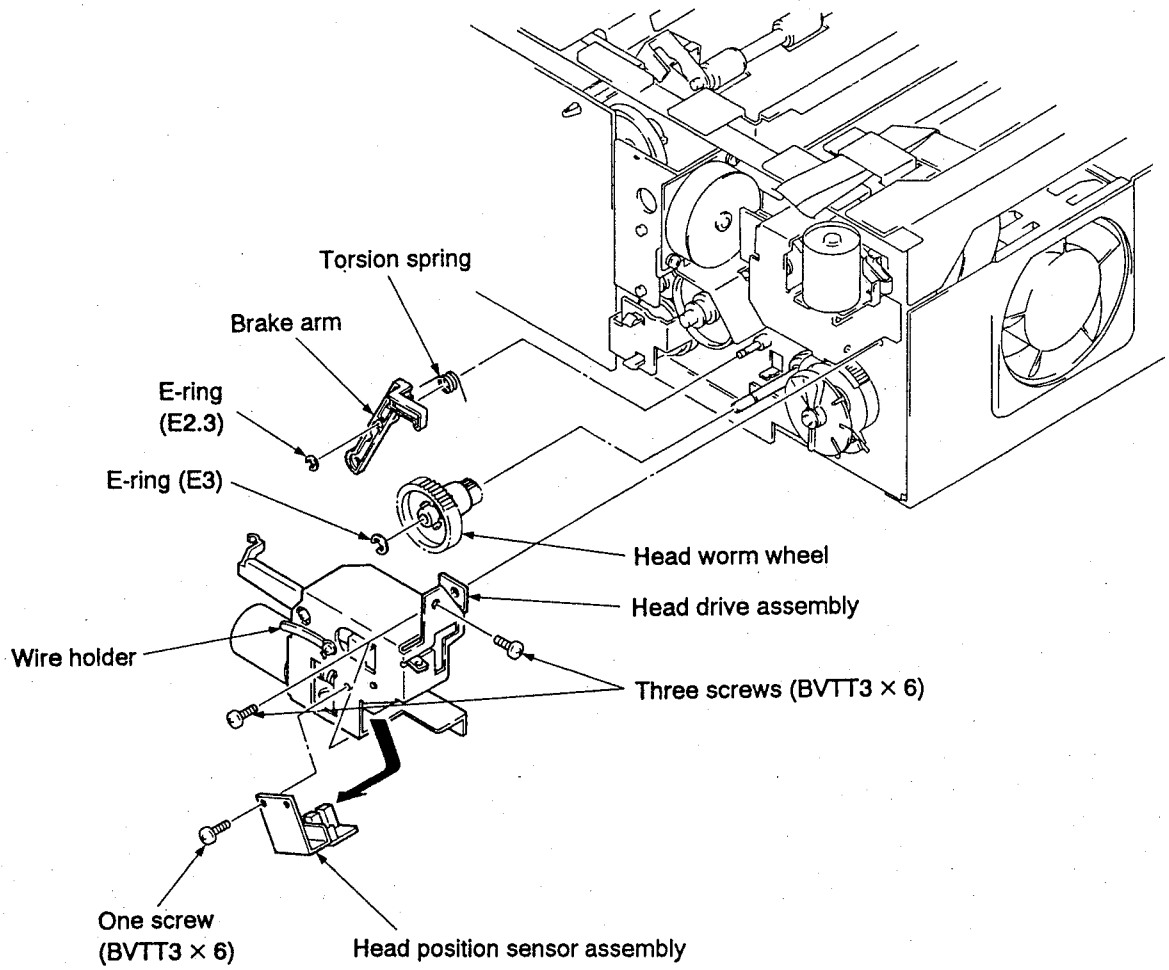
Note 2: When attaching the stepping motor assembly, make sure that there is some play between the worm wheel and worm gear.

Note 3: In case, replacing or removing stepping motor ass'y, adjust pitch between shift gear and platen gear by using shift gear pitch jig.



8-2-4. Replacement of Brake Arm

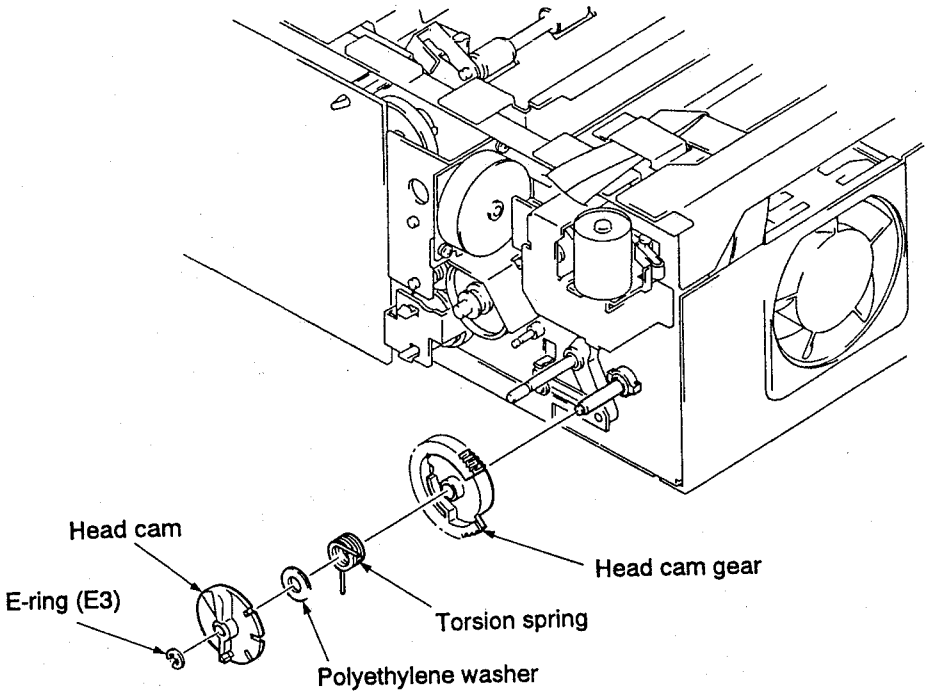
1) Remove the single screw and remove the head position sensor assembly in the direction of arrow.
2) Remove the three screws and remove the head drive assembly. (Bend the wire holder and remove the harness.)
3) Remove the E-ring and pull off the head worm wheel from the shaft.
4) Remove the E-ring and remove the brake arm.



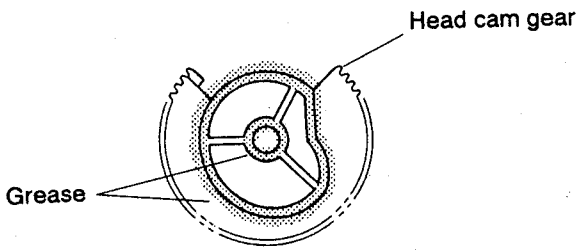
5) Replace the brake arm and attach.

8-2-5. Replacement of Head Worm Wheel, Head Cam Gear, and Head Cam

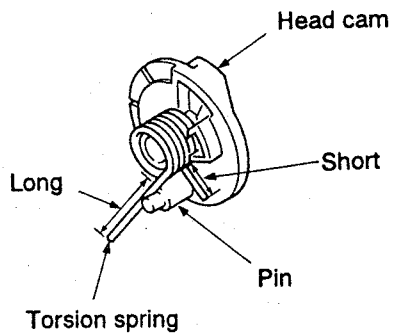
1) Remove the head drive assembly, head worm wheel, and brake arm as described in steps 1) through 4) of 4.
2) Remove the E-ring and pull off the head cam, polyethylene washer, torsion spring, and head cam gear from the shaft in this order.
3) Inspect the head worm wheel, head cam, polyethylene washer, torsion spring, and head cam gear and replace any of these parts if necessary.



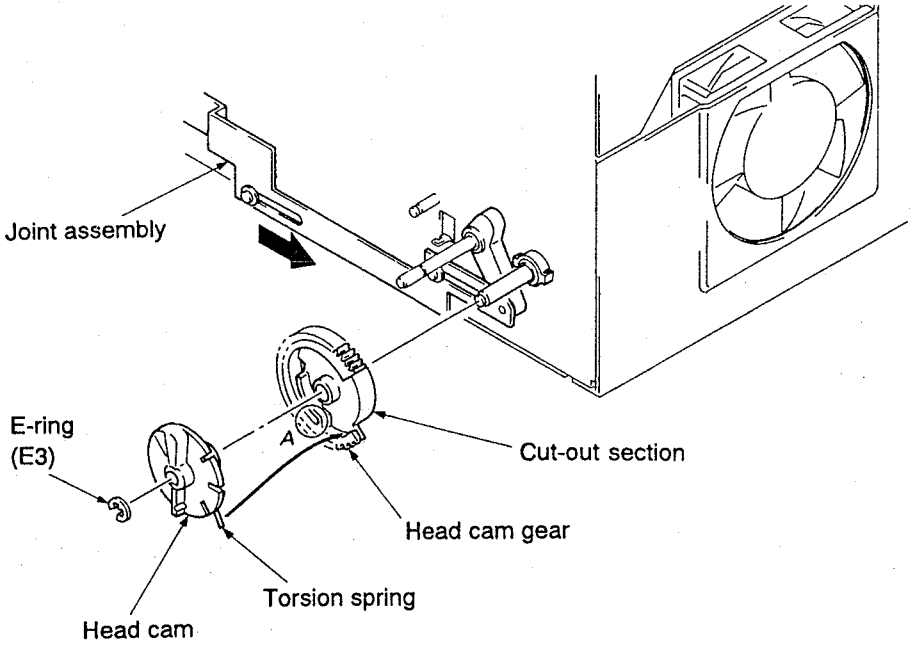
4) Apply Sony grease to the outside of the cam section of the head cam gear and to both ends of the boss, and attach to the shaft.



5) Attach the polyethylene washer and torsion spring to the head cam boss in this order, and make sure that both sides of the torsion spring sandwich the head cam pin. (Attach so that the short end of the torsion spring is at the base of the boss.)



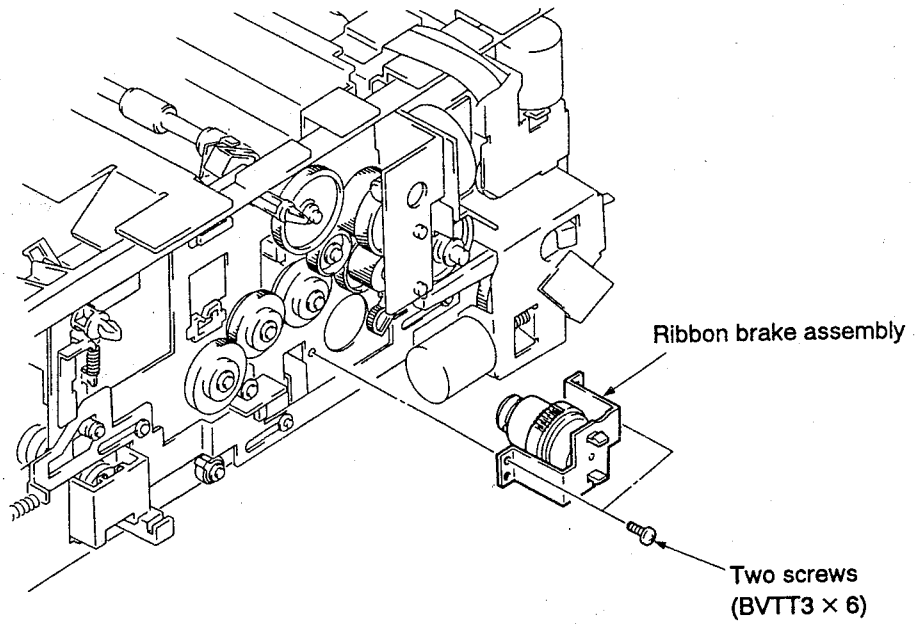
6) With the joint assembly pushed fully to the right, push in the head cam gear so that it comes into contact with the side chassis with the cut-out area to the right.
7) Gently line up the cut-out section of the head cam with the head of the shaft and insert.
8) Insert the tip of the head cam pin into section A of the head cam gear while making sure that the spring does not come off.
9) Hang the long end of the torsion spring on the projection at the cut-out section of the head cam gear.
10) Rotate the head cam gear in the counterclockwise direction, make sure that the paper feed lever comes down when cut-out section is at the top. Attach the E-ring to hold the head cam in place.



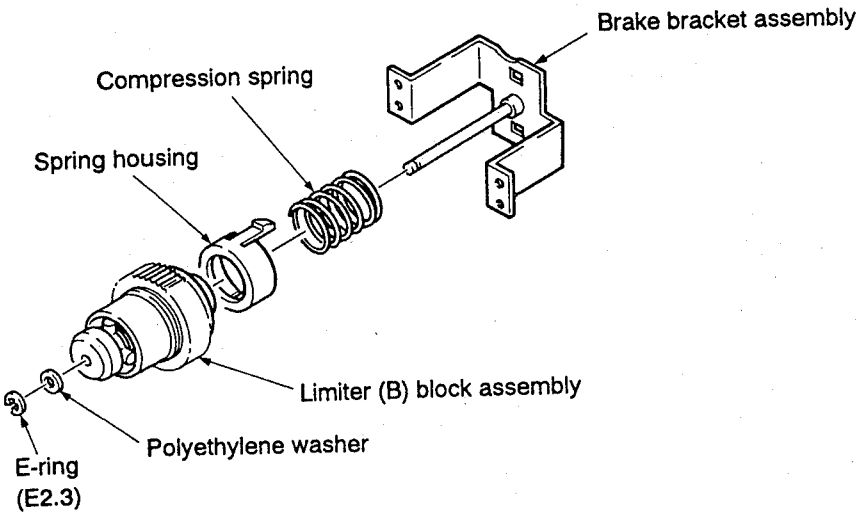
11) Attach the brake arm, head worm wheel, and head drive assembly.

8-2-6. Replacement of Limiter (B) Block Assembly (Ribbon Brake Assembly)

1) Remove the two screws and remove the ribbon brake assembly.



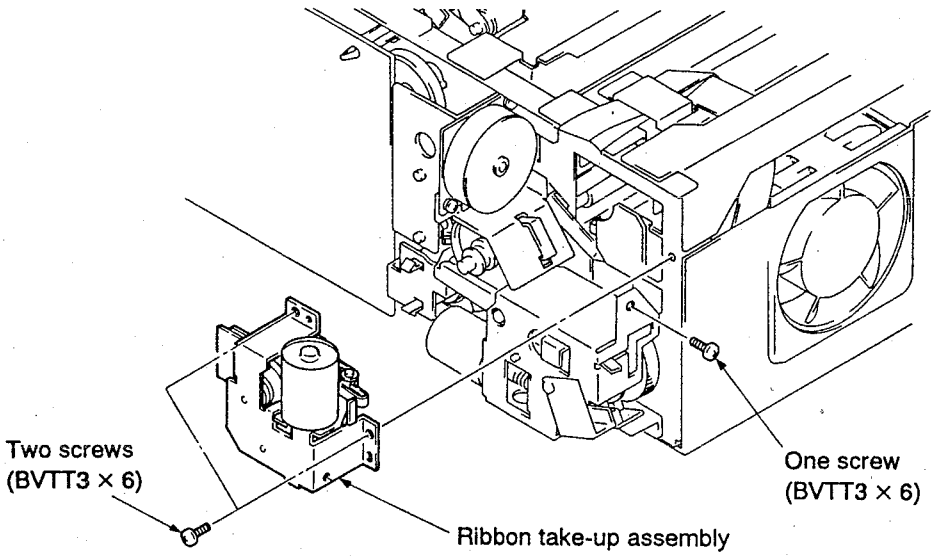
2) Remove the E-ring, polyethylene washer, and limiter (B) block assembly from the shaft in this order.



3) Replace the limiter (B) block assembly and attach.

8-2-7. Replacement of Limiter Idler Gear and Limiter (A) Block Assembly

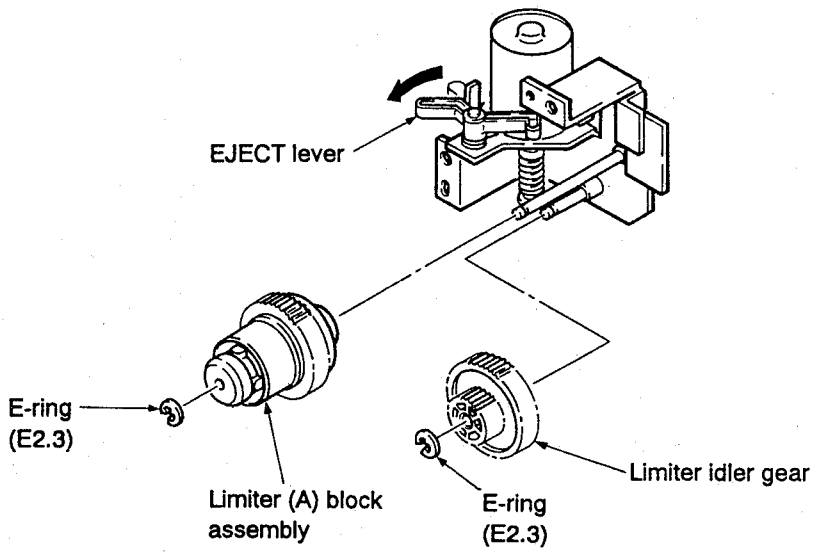
1) Remove the three screws and remove the ribbon takeup assembly.



2) Remove the E-ring and limiter (A) block assembly from the shaft.

Note: The limiter (A) block assembly will normally come into contact with the EJECT lever when removing. In order to prevent this, push the EJECT lever down as far as possible and then remove the limiter (A) block assembly.

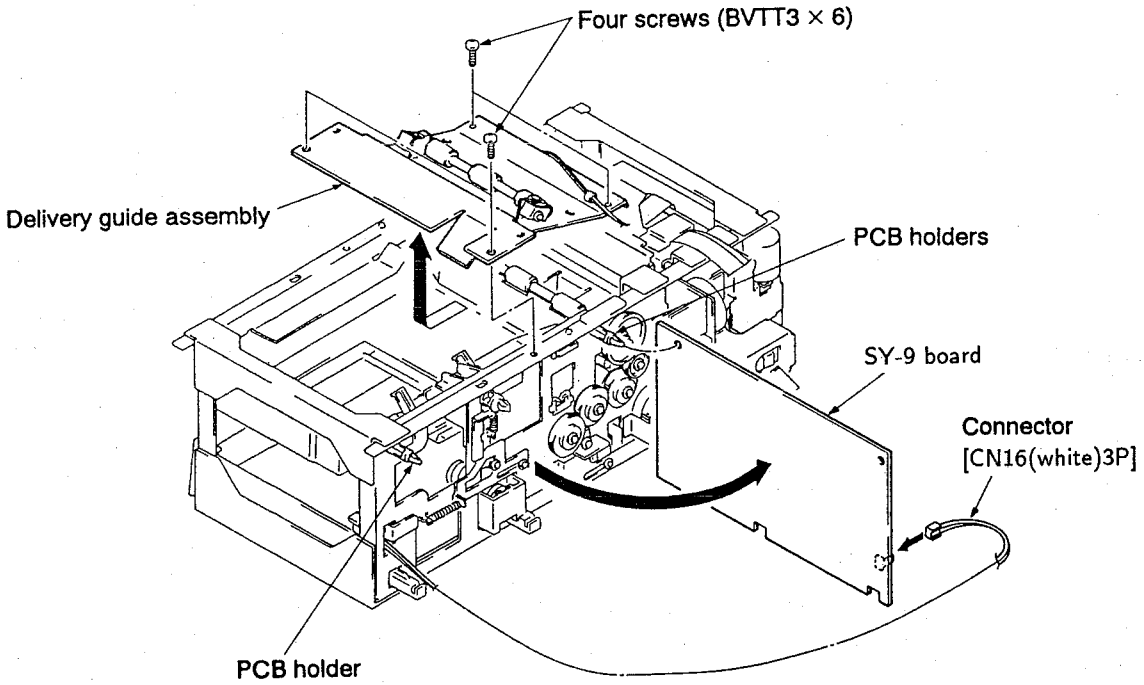
3) Remove the E-ring and pull off the limiter idler gear.



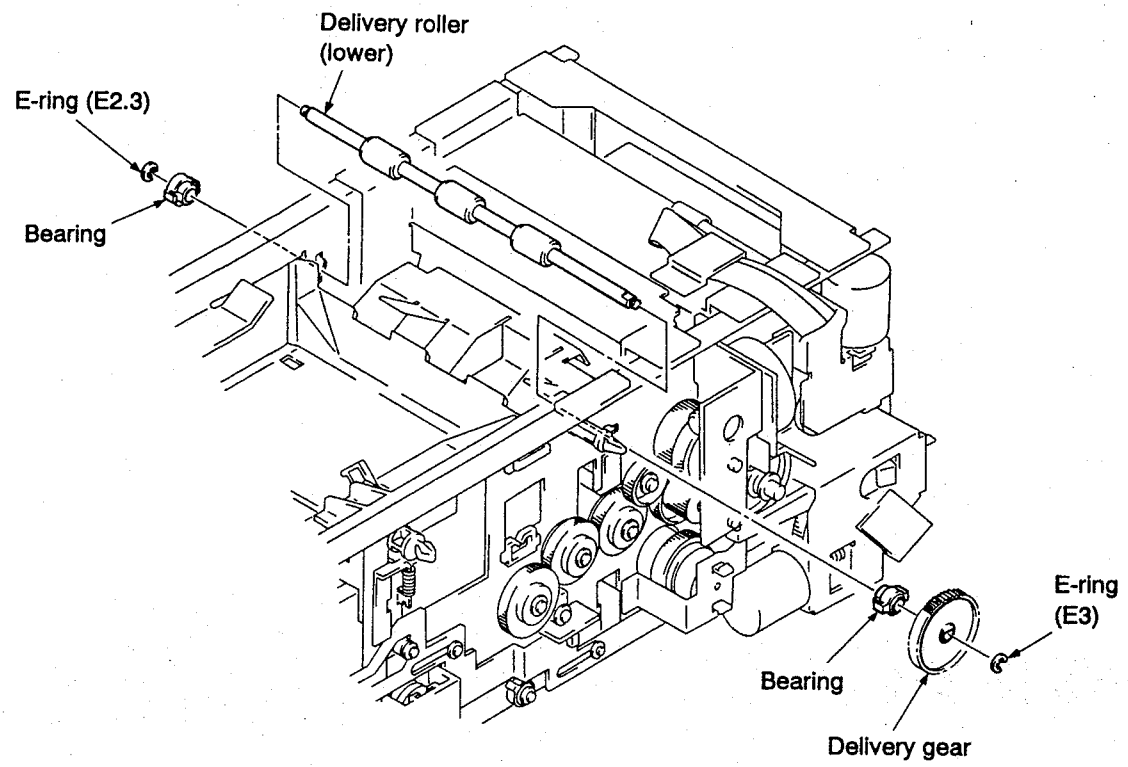
4) Replace the limiter idler gear and/or limiter (A) block assembly if necessary, and reattach.

8-2-8. Removal of Delivery Roller (Lower) and Delivery Gear

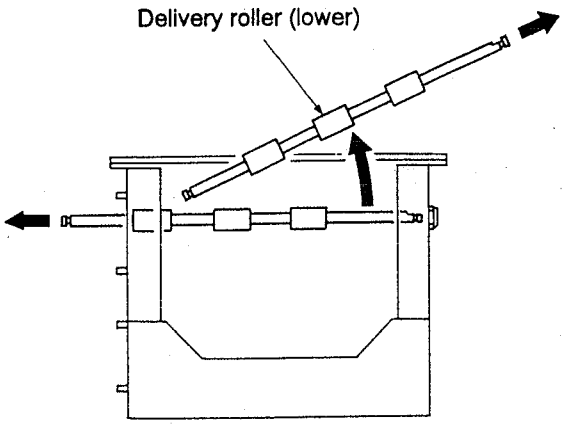
1) Remove the four screws and remove the mechanical shield plate.
2) Remove the four screws, lug and remove the delivery guide assembly.
3) Open the SY-9 board as described in steps 3) and 4) of 2.



4) Remove the E-ring and pull off the delivery gear and bearing.
5) Remove the other E-ring and remove the bearing.



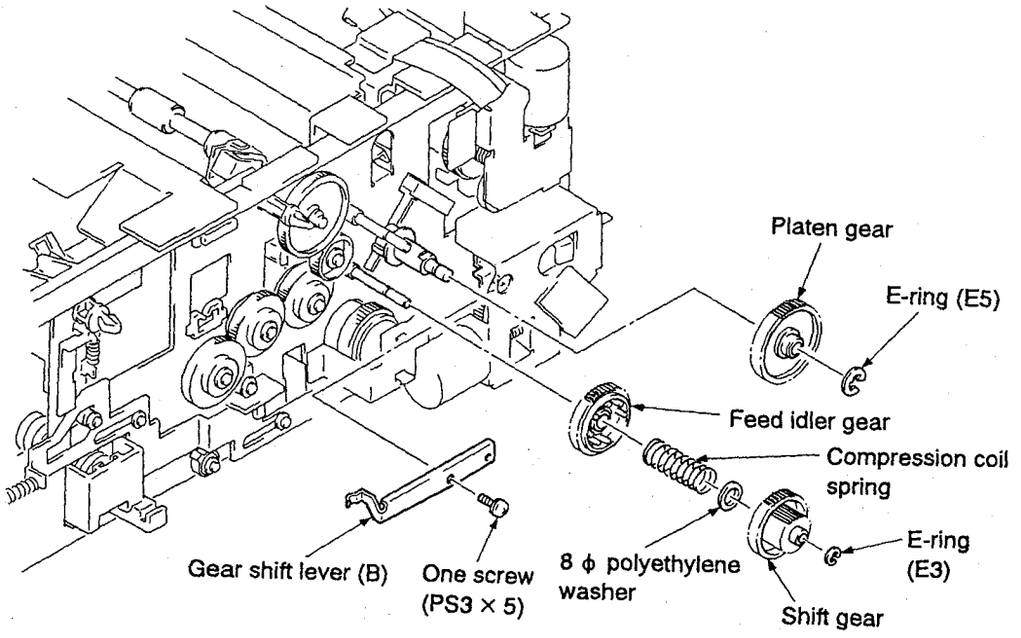
6) Remove the delivery roller (lower) by pulling out one side and then the other, and remove from the main unit.



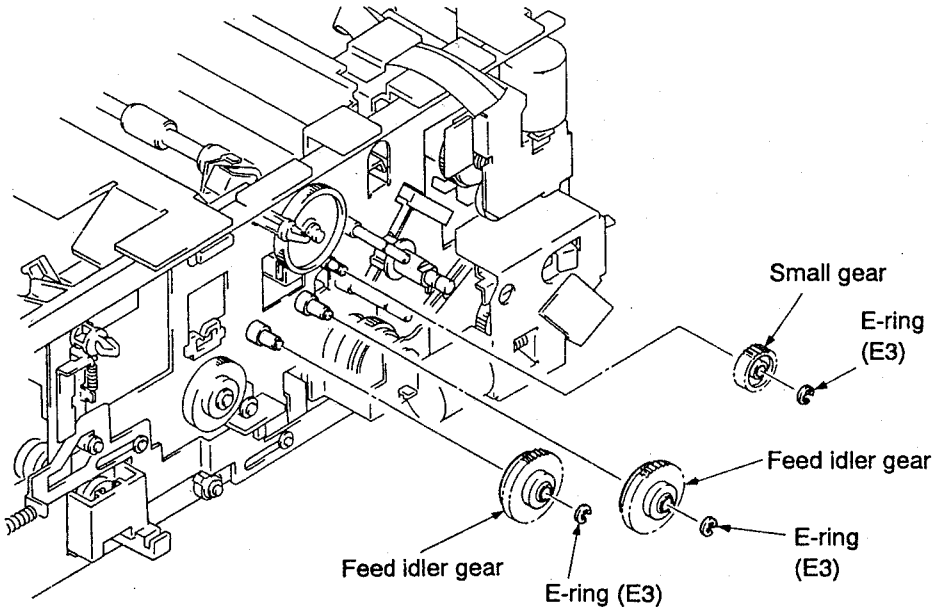
7) Replace the delivery roller (lower) and/or delivery gear if necessary.
8) Apply Sony oil to both ends (width 20 – 30 mm) of the delivery roller (lower) shaft and attach.
   * Sony Oil

8-2-9. Replacement of Shift Gear and Feed Idler Gear

1) Open the SY-9 board as described in steps 3) and 4) of 2.
2) Remove the stepping motor assembly and worm wheel as described in steps 1) and 2) of 1.
3) Remove the single screw and remove the gear shift lever (B) attached to the head drive assembly.
4) Remove the E-ring and pull off the platen gear from the shaft.
5) Remove the E-ring and pull off the shift gear, 8ϕ polyethylene washer, compression coil spring, and feed idler gear from the shaft in this order.

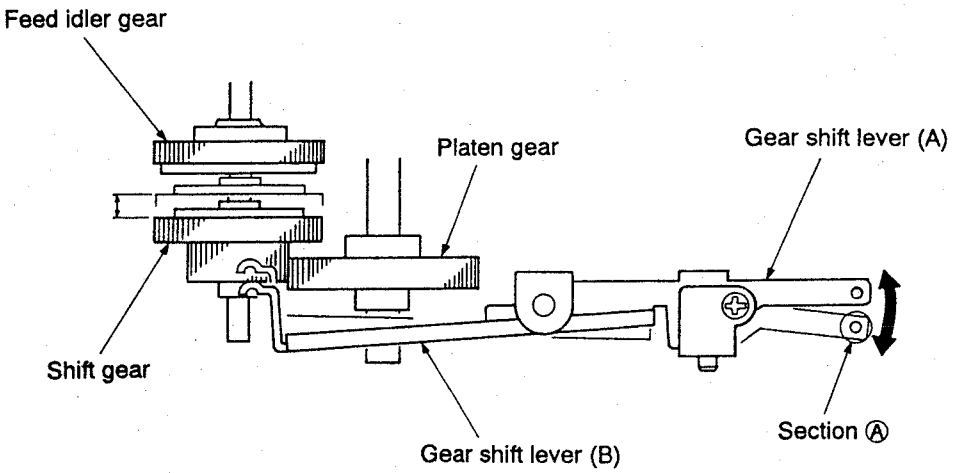


6) Remove the E-ring and remove the small gear.
7) Remove the two E-rings and remove the two feed idler gears from their respective shafts.



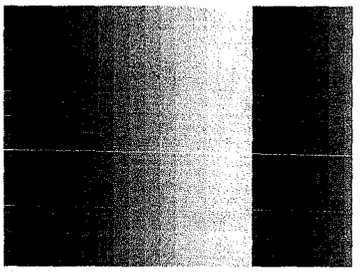
8) Replace the shift gear and/or two feed idler gears if necessary, and reattach.

Note: When it is difficult to attach the gear shift lever (B), attach while pressing on the shift gear with your finger. After attachment, confirm that the gear shift lever (B) presses against the shift gear, and that the shift lever moves when the section of the gear shift lever (A) is pushed with your finger.
: Be careful that gear shift lever (B) does not scratch the teeth of shift gear when it is mounting.



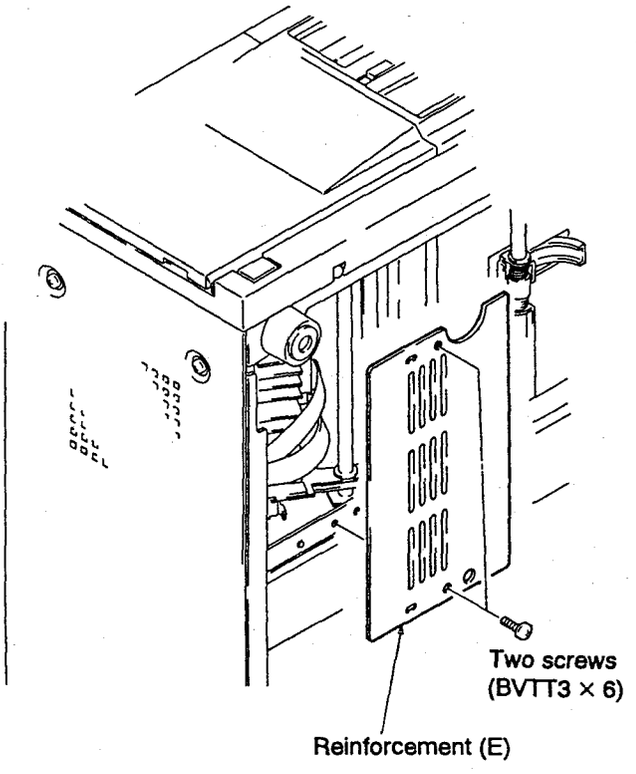
8-2-10. Replacing of Thermal Head

1) Before replacing, print out two sheets using the signal of service mode 1 (16 stair steps signal). (The second sheet is used as reference for density comparing after replacing the head.)

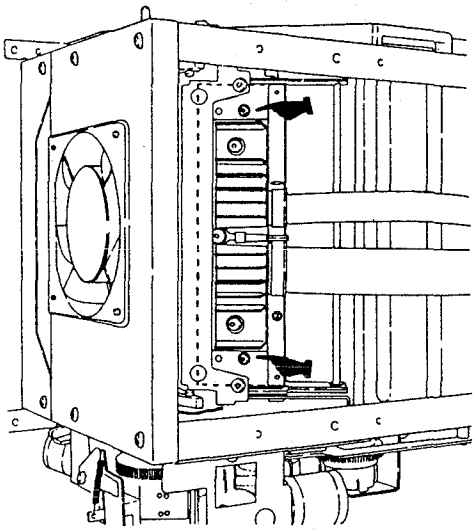


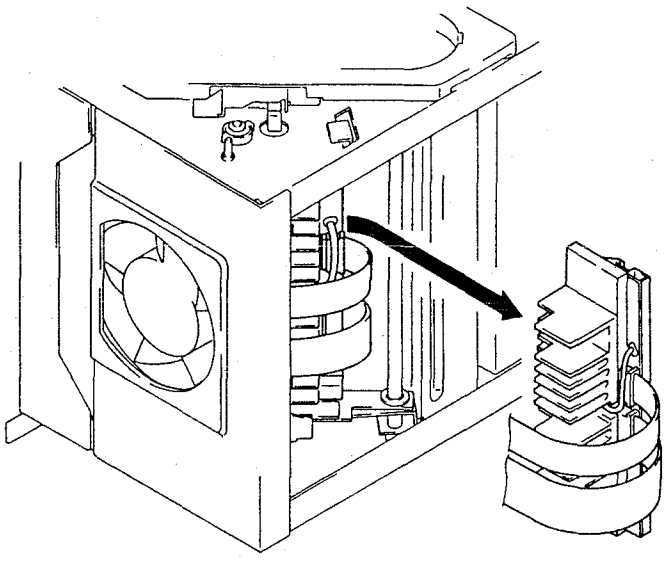
16 Stair steps

2) Remove the bottom panel so as to remove the reinforcement (E).



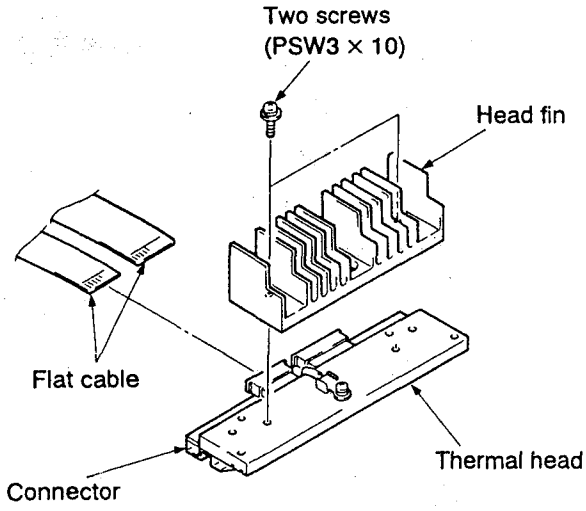
3) Remove two PSW3 × 5 screws shown in the figure and remove the head assembly while turning forward.

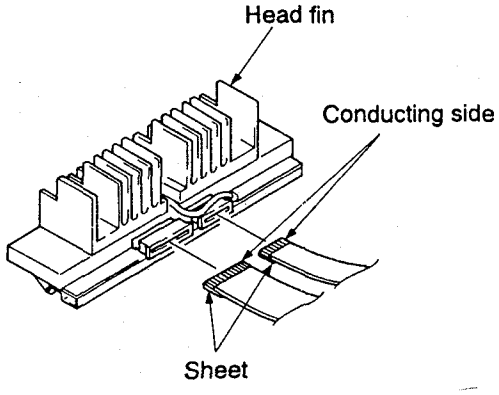


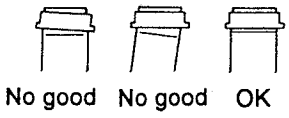


Note: When connecting or disconnecting the flat cable, first pull up the top of the connector.

4) When replacing the head, remove the head fin from the thermal head assembly as shown in the figure below. After replacing the head, reassemble them as before.







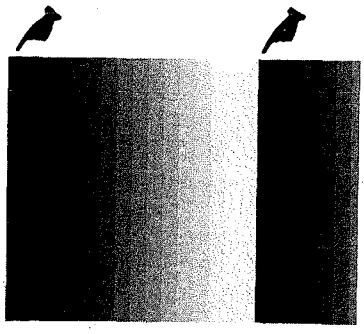
5) Remove the upper case and open the FMY-8/ VA-26 board.
Print out 2 copies before replacing the head, and print out more than 2 copies after replacing it. Adjust RV1 so that the density of the black portion of the copy made before replacing the head is the same density as the copy made after replacing the head.

RV1 (SY-9 Board)

Adjustment Method:

Clockwise: UP (↻)

Counterclockwise: Down (↺)



SONY

SONY - SP0165

COLOR VIDEO PRINTER

UP-5100
UP-5150
UP-5200MD
UP-5250MD

SERVICE MANUAL

CORRECTION-1

Please add and replace your manual with this CORRECTION-1.

5-20. Y/C SEP Y Adjustment (VA-26 Board)

Page	Incorrect	Correct
140	Spec. TP 303 (L-5) A=Minimum (Less than 0.05 V p-p)	 TP 323 (F-3) A=Minimun (less than 0.02 V p-p)

SECTION 7. ELECTRICAL PARTS LIST (UP-5200MD/5250MD only)

Page	Incorrect	Correct
172	* A-8271-102-A SY-9 BOARD,COMPLETE	* A-8271-102-A SY-9 BOARD,COMPLETE(UP-5200MD) * A-8271-113-A SY-9 BOARD,COMPLETE(UP-5250MD)
173	IC5 8-759-500-67 IC AM27C010-155DC	IC4 8-759-067-76 IC AM27C512-SY9NV1.2 IC5 8-759-058-91 IC HN27C101AP-SY9GV1.0

SECTION 7. ELECTRICAL PARTS LIST

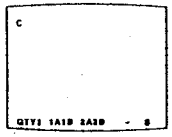
Page	Incorrect	Correct
182	⚠* 1-413-688-11 POWER SUPPLY (VTR-P3A)BOARD	⚠* 1-413-688-11 REGULATOR,SWITCHING (VTR-P3A)

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part numer specified.

When you turn on the printer, the initial screen message appears.

Once the printer is ready, the following message appears. You can erase this message (see "Erasing screen messages"). This screen is called the regular screen.



C (Caption) (See page 63.)
C is displayed when you print a caption consisting of the date and/or comments.
Note
When you first turn on the printer, "C" does not appear. This C appears only when you select the caption input function.

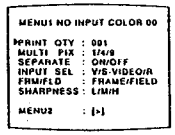
QTY (Quantity)
QTY indicates the number of copies to be printed (see page 36). This item blinks while the printer is busy. Also, the color changes to indicate the progress, as follows:
Printing start - yellow - magenta - cyan - printing ends

1A1B 2A2B
Whichever memory you select appears in green.
Note
The UP-5100 printer has only one memory. Thus, "1A1B" appears on the screen.

S
S indicates the type of image shown on the monitor screen.
S (Source): An image being played back from a video deck is displayed on the screen.
M (Memory): An image stored in memory is displayed on the screen.

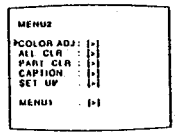
Menus displayed
Either of two menus can be displayed.

MENU 1



When the regular screen is on the monitor, you can display MENU 1 by pressing the MENU button.

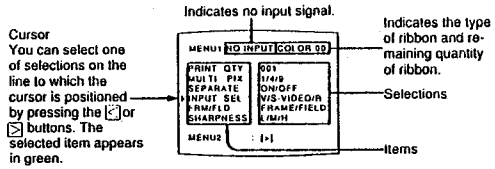
MENU 2



To select MENU 2, move the cursor ▶ to "MENU 2" on the MENU 1 screen and press the ▷ button.
You can select the input signal and operations, adjust print quality and set the printer by using the menus. For details of the tree-structure of menus, see "Screen display on video monitor and printer window display."

Note
On menus, QTY memory page, S or M and * that indicates a reduced image do not appear. But, you can use the basic operation buttons such as PRINT, MEMORY IN, STOP, SOURCE/MEMORY and MEMORY PAGE. When you return the regular screen, rewritten messages newly appear on the screen.

How to read menus



Selected selections are displayed in green.

Adjusting the color

This subsection explains how to adjust the printout color.
You can adjust the following on the menu screen.

- Color intensity (R/G/B)
- Picture contrast (DARK/LIGHT)

Presetting

You can preset three print colors. This operation is called presetting. The color intensity and picture contrast of a printout are determined by one of three presettings. These presettings remain in the printer even when you turn the power off. One way of adjusting an image is to change the presetting completely; the other is to temporarily adjust the displayed setting without storing it.

Adjust the color using the following procedure.

When presetting

Displaying an input signal or an image stored in memory on the video monitor
↓
Displaying the menus and then the COLOR ADJUST screen.
↓
Selecting the presetting number
↓
Adjusting the color intensity and picture contrast
↓
Storing the presetting

When adjusting the displayed setting without storing

Displaying an input signal or an image stored in memory on the video monitor
↓
Displaying the menus and then the COLOR ADJUST screen.
↓
Selecting the presetting number
↓
Adjusting the color intensity and picture contrast

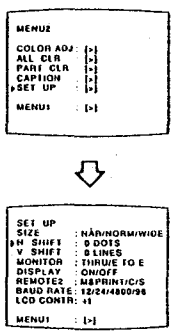
While adjusting the color, TEMP appears in green to the right of the PRESET item. This TEMP indicates that the setting is temporary and not stored. If you subsequently print, the printer prints the image with the newly preset values. The TEMP presetting is cleared, however, when you turn the power off.

The SET UP menu allows you to set up the printer specifications.

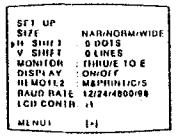
Displaying the SET UP menu

1 **Press the MENU button to display the MENU 1 screen. Move the cursor ► to MENU 2, then press the [>] button.**

2 **Move the cursor ► to SET UP by pressing the [∧] or [∨] buttons, then press the [>] button.**



The functions of the SET UP menu are outlined below.



SIZE
Setting the print size.

H SHIFT
Shifting the printout horizontally

V SHIFT
Shifting the printout vertically

MONITOR
Setting the video signal output from the MONITOR connector on the printer

DISPLAY
Turning the character display on the video monitor on or off

REMOTE 2
Setting the printer operation when the printer receives the signal from REMOTE 2 connector

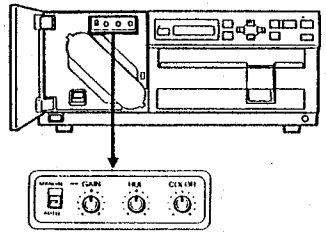
BAUD RATE
Setting the baud rate of the RS-232C connector

LCD CONTR
Adjusting the contrast of the printer window

Video recorded under poor conditions may have poor color quality. If the format is an NTSC composite video signal or separate luminance (Y) and chrominance (C) signals, you can correct the color to a certain extent.

Before starting adjustment

Set the HUE and COLOR controls to the center detents.



Note
Do not change the MONITOR RGB control setting on the rear of the printer, or the color control setting of the video monitor when a video signal is input to the video monitor.

Compensating

Adjust HUE and COLOR while viewing the input signal on the video monitor.

Note
You cannot adjust an image stored in memory. Adjust the picture quality before storing and printing an image.

About the GAIN AUTO/MANUAL selector and GAIN control
The GAIN AUTO/MANUAL selector and GAIN control are used to adjust the input signal to the optimum level for printing.
When the GAIN AUTO/MANUAL selector is set to AUTO, if a signal is weak, that is it has a low amplitude - the AGC (automatic gain control) amplifies it so that it results in a good printout. However, the AGC may cause an unnatural brightness in some cases. For example, a dark scene may be printed much lighter than it appears on the monitor. In this case, set the GAIN AUTO/MANUAL selector to MANUAL and make the adjustments necessary with the GAIN control. When the input level is appropriate, we recommend you to select the manual adjusting.

Note
For an RGB signal, if the input level of each signal is different, you cannot adjust the input signals with the GAIN control.

To produce a satisfactory printout of the image on the video monitor, adjust the monitor and printer colors so that the video monitor colors are the same as those of the printout. Perform the adjustment with the MONITOR RGB controls on the rear of the printer.
The printer outputs either of the two kinds of video signals according to the printer specifications.

- **E to E**: Signals are output to the video monitor after being processed by the printer's circuitry
- **THRU** (through): Signals are output to the video monitor
  At the factory, the printer is adjusted such that the images for both signals appear identical. If they are different, the settings of the printer's controls may not be correct. Check the settings of the MONITOR RGB, HUE, COLOR and GAIN controls.

When the video monitor color does not match that of the printout, adjust as follows.

1 Adjusting the monitor color

Even if the printer is correctly adjusted, the video monitor may not be correctly adjusted. This may happen when you replace the video monitor. If the color of the monitor is adjusted using the controls on the printer, it is difficult to check whether the video monitor is itself correctly adjusted. When you don't want to move the controls on the printer, adjust the monitor color with the video monitor controls, using the through signal that is output directly to the monitor without being processed by the printer's circuitry.

1. **Press the MENU button to display the MENU 1 screen.**
2. **Move the cursor ► to MENU 2, then press the [·] button.**
   MENU 2 appears.
3. **Move the cursor ► to SET UP, then press the [·] button.**
   The SET UP menu appears.
4. **Move the cursor ► to MONITOR, then switch THRU to green by pressing the [·] or [·] buttons.**
   The signal is output to the video monitor.
5. **Press the MENU button to return to the regular screen.**
6. **Adjust the color of the monitor by using monitor controls.**

2 Adjusting the color of the printer's output signal

To adjust the color of the printer's output signal to the video monitor, change the output signal to that which is processed by the printer's circuits. First print the image and adjust controls on the printer while comparing the printout with the image on the video monitor.

1 **Press the MENU button to display the MENU 1 screen.**

2 **Move the cursor ► to MENU 2, then press the [↓] button.**
MENU 2 appears.

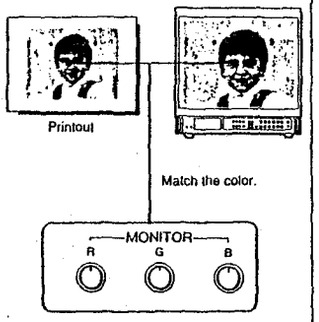
3 **Move the cursor ► to SET UP, then press the [↓] button.**
The SET UP menu appears.

4 **Move the cursor ► to MONITOR, then switch E TO E to green by pressing the [→] or [←] buttons.**
The signal is output to the video monitor, after being processed by the printer's circuits.

5 **Press the MENU button to return to the regular screen.**

6 **Store a new image (for color adjusting) and print it.**

7 **Adjust the MONITOR RGB controls on the rear of the printer to match monitor color with the printout color.**

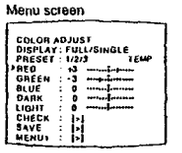


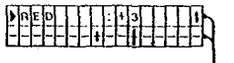
Note
The MONITOR RGB controls are used to adjust the color of the output signal from the printer when the video monitor color is unsatisfactory. This adjustment does not affect the printout. To adjust the quality of the printouts, see page 40.

When you want to see an image that is hidden behind a screen message (C, QTY1, 1A1B and others), you can erase the screen message. The printer operations are identical, regardless of whether messages are displayed on the screen. The messages can always be seen on the printer display window.

Screen display **Printer window display**

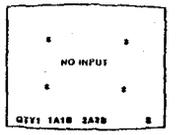
Menu screen



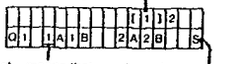


Item selected with the cursor on the menu screen is displayed on the printer window

Regular screen



This symbol [ ] means that the green star * at the top left lights in green in the four reduced images.



This symbol – means that 1A 1B is selected.

Bottom line of regular screen is displayed on the printer window

For detailed information on screen display and window display, see page 81.

1 **Press the MENU button to display the MENU 1 screen.**

2 **Move the cursor ► to MENU 2, then press the [↓] button.**
MENU 2 appears.

3 **Move the cursor ► to SET UP, then press the [↓] button.**
The SET UP menu appears.

4 **Move the cursor ► to DISPLAY, then switch OFF to green by pressing the [→] or [←] buttons.**

To display screen messages
At step 4, switch ON to green.

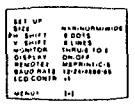
Note
If you set the printer output signal specification to THRU (through), screen messages do not appear even when you switch ON to green.
In this case, press the SOURCE/MEMORY button. The image stored in memory appears on the video monitor and you can check the present condition.
However, error messages can appear at any time.

Sometimes, a black line appears on the printouts, although it does not appear on the video monitor. A portion where there is no video signal is printed in black. This may occur when you make printouts after connecting a different video source or play back a different video software.
If a black line appears on the printout, adjust the printer as follows.

1 **Press the MENU button to display the MENU 1 screen.**

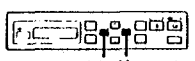
2 **Move the cursor ► to MENU 2, then press the [ ] button.**
MENU 2 appears.

3 **Move the cursor ► to SET UP, then press the [ ] button.**
The SET UP menu appears.



4 **Move the cursor ► to H SHIFT when the black line is on the right or left.**

5 **Adjust the horizontal number by pressing the [ ] or [ ] buttons.**
You can shift the image to the right by up to 36 dots and to the left by up to 22 dots in steps of 2 dots.
When you shift the image to the right of the standard position, R (right) appears.
When you shift the image to the left from the standard position, L (left) appears.



Move to the left. Move to the right.

This means that the image moves to the right from the standard by 6 dots.

When the black line is on the right

Shift the image to the right by pressing the [ ] button.

When the black line is on the left

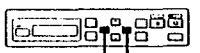
Shift the image to the left by pressing the [ ] button.

By pressing the [ ] and [ ] buttons together, the image position returns to the standard position. However, this function is not available when you are using the remote control unit.

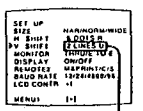
Note
When it is difficult to check whether the black line appears on the monitor, make a printout of four reduced images so that you can see any black line clearly.

6 **Move the cursor ► to V SHIFT when the black line is at the top or bottom.**

7 **Adjust the vertical number by pressing the [ ] or [ ] buttons.**
You can shift the image up or down by 3 lines.
When you shift the image up from the standard position, U (up) appears.
When you shift the image down from the standard position, D (down) appears.



Moves downward. Moves upward.



This means that the image moves up from the standard by 2 lines.

When the black line is at the bottom

Shift the image down by pressing the [ ] button.

When the black line is at the top

Shift the image up by pressing the [ ] button.

8 **Press the MENU button to return to the regular screen.**
The black line is also stored in memory with the previous image. Thus, store a new image in the memory and print it to check whether the black line disappears.

Note
When the black line still remains even after adjusting H SHIFT or V SHIFT, change the size to smaller one.

When you print an image that is narrower or wider than the standard screen size, you can change the screen size.
The printer supports the following three sizes as standard.
NAR (narrow): 708 (H) × 462 (V) (dots × lines)
Use this size when a black line appears on the printout.
NORM (normal): 720 (H) × 468 (V) (dots × lines)
Use this size normally.
WIDE: 756 (H) × 486 (V) (dots × lines)
Use this size to print when the signal scans beyond the edge of the regular screen.

Note
It is not recommended that general users use the WIDE size. In WIDE mode, the video monitor may not work correctly because the scanned portion exceeds the range that the video monitor can support.

Setting the Screen Size

1 **Press the MENU button to display the MENU 1 screen.**

2 **Move the cursor ► to MENU 2, then press the [ ] button.**
MENU 2 appears.

3 **Move the cursor ► to SET UP, then press the [ ] button.**
The SET UP menu appears.

4 **Move the cursor ► to SIZE.**

5 **Switch the desired size to green.**
NAR: When the signal scans within the limits of the regular screen (when the black lines appear in normal size even though you shift the image with the H SHIFT or V SHIFT function
NORM: Regular screen size
WIDE: When the signal scans outside the limit of the regular screen

You can control the printer with either of the following two options connected to the REMOTE 2 connector on the rear panel.

- FS-20 foot switch (not supplied) (see page 21)
- Pulse signal (see page 83)

The printer operates in one of the following three modes when receiving a pulse signal, according to the printer setting. You set the operation from a menu.

M(MEMORY) & PRINT: Stores an image in memory and printing it at the same time

CYCLIC M(MEMORY): Stores images in memory cyclically

M(MEMORY) STOP: Stores an image in one memory whenever the printer receives a pulse signal. The printer stops storing images in the memory when images have been stored in all memories.

Setting Operation Mode

1 **Press the MENU button to display the MENU 1 screen.**

2 **Move the cursor ► to MENU 2, then press the [ ] button.**
MENU 2 appears.

3 **Move the cursor ► to SET UP, then press the [ ] button.**
The SET UP menu appears.

4 **Move the cursor ► to REMOTE 2.**

5 **Switch the desired operation mode to green.**
M (M & PRINT): Stores an image in memory and printing it at the same time
The memory page is not changed.
C (CYCLIC M): Stores images in memory cyclically
M(M STOP): Stores an image in one memory whenever the printer receives a pulse signal. The printer stops storing images in memory when images have been stored in all memories. Message STOP STOP STOP appears.

When STOP STOP STOP appears
Press the STOP button. (All buttons other than the STOP button are not active.)

Notes

- When you select M, the printer stores an image and prints it at the same time. When you select either of the other two, the printer only stores the images in memory. To print those images, select the memory page and print it.
- When you select C, the printer continues to store images by replacing a previously stored image with a new one.

You can set up the following printer specifications in addition to those explained in this chapter.

- Communication speed between the printer and a computer
- Contrast of window display

Setting the baud rate

You can control the communication speed with a computer connected to the RS-232C connector on the rear panel. For details, see "Color Video Printer Interface Manual UPM-5000" (not supplied).
You can set up the baud rate from the SET UP menu.

1 **Press the MENU button to display the MENU 1 screen.**

2 **Move the cursor ► to MENU 2, then press the [ ] button.**
MENU 2 appears.

3 **Move the cursor ► to SET UP, then press the [ ] button.**
The SET UP menu appears.

4 **Move the cursor ► to BAUD RATE.**
All digits of the selected baud rate are displayed. Only the high-order two digits of the remaining baud rates are displayed.

5 **Switch the desired baud rate to green.**
The selected baud rate is displayed in green, with all digits shown (00 is added).

Adjusting the contrast of the window display

You can adjust the contrast of the window display.

1 **Move the cursor ► to LCD CONTR of the SET UP menu.**

2 **Adjust the contrast of the window display by pressing the [ ] or [ ] buttons.**

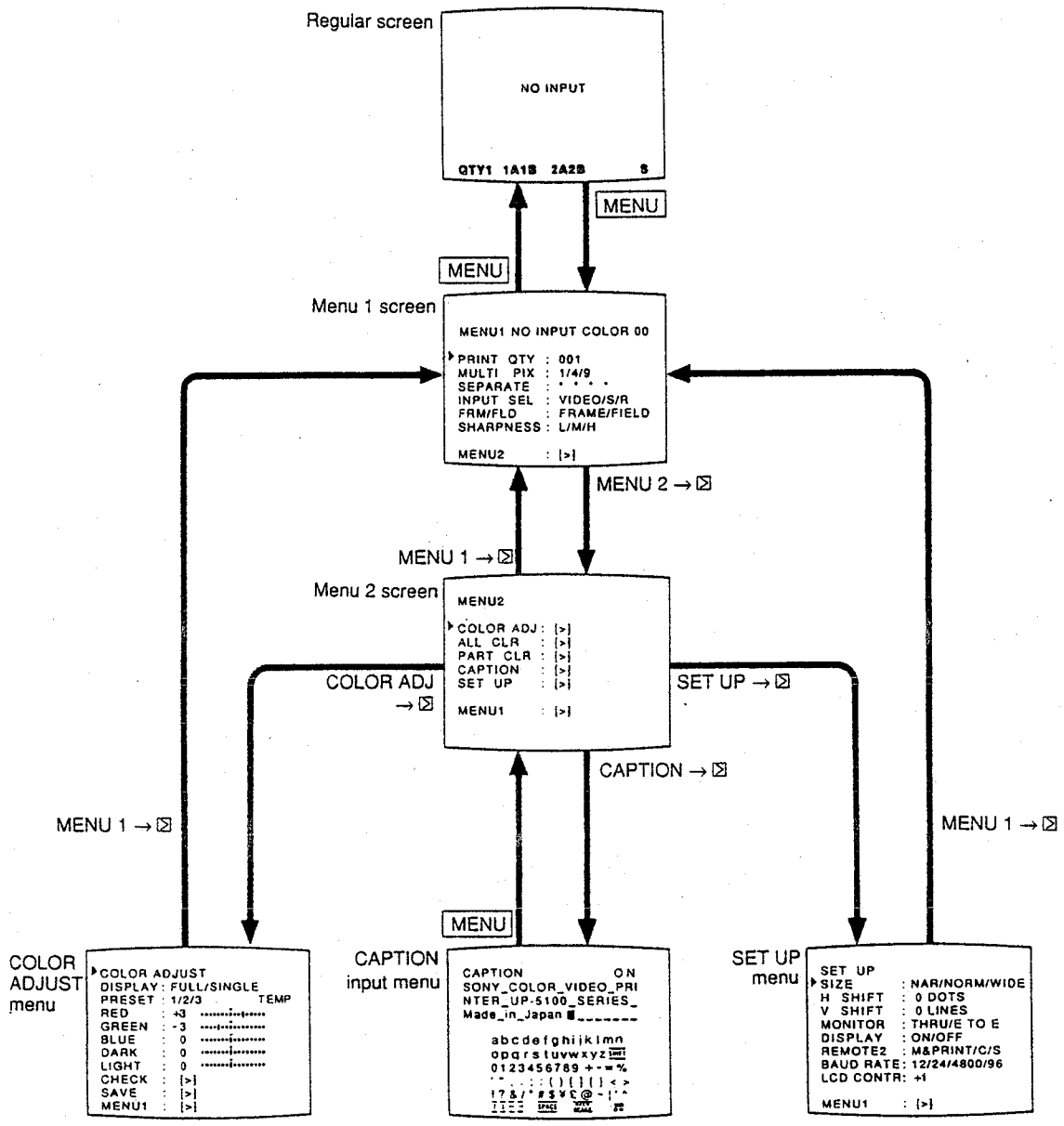
To make the contrast stronger, press the [ ] button.
To make the contrast weaker, press the [ ] button.

The printer window display is different from the screen display on the monitor because the display range is narrower and the number of characters is limited. The contents are the same.

Tree-structure of menus

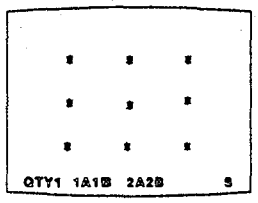
This subsection explains the structure of menus and how to make use of the tree-structure of menus.

In the chart,
□ indicates the button to press.
All capital, items like COLOR ADJUST indicate the menu message.
Example:COLOR ADJUST (in capitals)→□
You move the cursor ► to the message, then press the □ button.



Differences between video monitor and printer displays

Regular screen



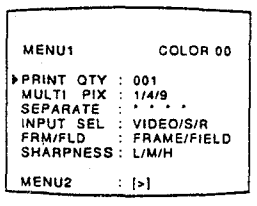
[ ] indicates the position where the green star * is placed on the multi-image screen.

							[	1	]	2		3		
Q	1		1	A	1	B		2	A	2	B		S	

Indicates the selected memery

Displays the bottom line of the screen

MENU 1 and MENU 2



▶	P	R	I	N	T	Q	T	Y	:					
										0	0	1	↓	

The display changes whenever you press the △ or ▽ button.

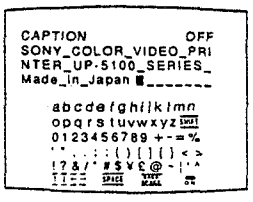
In the case of no input, NO INPUT appears.

		N	O		I	N	P	U	T					
										0	0	1	↓	

▶	S	I	Z	E										
	N	A	R	/	N	O	R	M	/	W	I	D	E	↓

↓ indicates that items continue downward.
↑ indicates that items continue upward.
↑↓ indicate that items continue both upward and downward.

CAPTION input

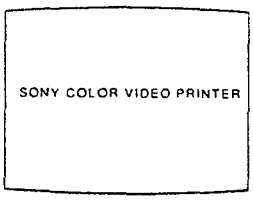


The line in the character display area where the cursor is placed is displayed.

M	a	d	e		i	n		J	a	p	a	n		
↑	↓	←	→		s	p		b	s			O	N	↑

The line in the character enter area where the cursor is placed.

Message screen



Messages are displayed.

			S	O	N	Y		C	O	L	O	R		
		V	I	D	E	O		P	R	I	N	T	E	R